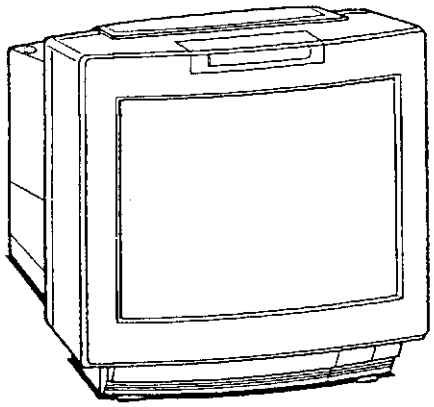
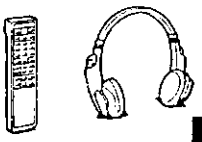
KV-H1610D
MDR-IF510/RM-658

SERVICE MANUAL

AEP Model

Chassis No. SCC-B66G-A





BE-1 CHASSIS

Note: The service manual for RM-658 has been issued separately.

MODELS OF THE SAME SERIES	
KV-H1610A	KV-M14D/P14D
KV-M2130D/M2131D	
KV-M19D/M19TD	

SPECIFICATIONS

Television system	B/G/H
Color system	PAL/SECAM
Stereo receiver	West German Stereo
Channel coverage	VHF : E2-E12 S1-S20 UHF : E21-E69
Picture tube	Trinitron tube 90°-degree deflection Approx. 40.6 cm (16 inches) (Approx.38.7cm picture measured diagonally)
Inputs	21-pin connector : CENELEC standard Front A/V jack (phono-video, audui L/R)
Outputs	Audio jack (phono L/R) 21-pin connector : CENELEC standard
Speaker	7.5cm dia
Powear requirement	220-240V AC, 50Hz
Sound output (TV set's speaker)	3.5 W
Power consumption	60 Wh
Dimensions	Approx. 387x378x413.5 mm (w/h/d)
Weight	Approx. 13.5 kg
Supplied accessories	MDR-IF510 headphones (1) RM-658 Remote Commander (1) IEC designation R6 batteries (4) Telescopic aerial (1) Aerial connector (300-75ohm matching transformer is built in) (1)
Recommended accessories	: Rechargeable battery NC-6WM, NC-5WM

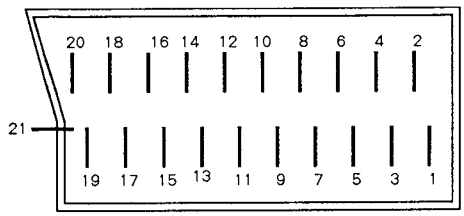
Design and specifications are subject to change without notice.

MICROFILM

TRINITRON® COLOR TV

SONY®

21－pin Euro Connector Configuration



PIN	SIGNAL	SPECIFICATION
1	Audio output	0.5Vrms/1kilohm or less
2	Audio input	0.5Vrms/10kilohms or more
3	Audio output	0.5Vrms/1kilohm or less
4	Earth (audio)	
5	Earth (B－input)	
6	Audio input	0.5Vrms/10kilohms or more
7	B－input	0.7Vp－p/75ohms
8	Function switching	9.5V to 12V
9	Earth (G－input)	
10		
11	G－input	0.7Vp－p/75ohms
12		
13	Earth (R－input)	
14	Earth (blanking)	
15	R－input	0.7Vp－p/75ohms
16	Fast blanking	1V to 3V/75ohms
17	Earth (video)	
18	Earth (fast blanking)	
19	Video output	1Vp－p/75ohms
20	Video input	1Vp－p/75ohms
21	Screening plug	

SAFETY-RELATED COMPONENT WARNING !!

COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

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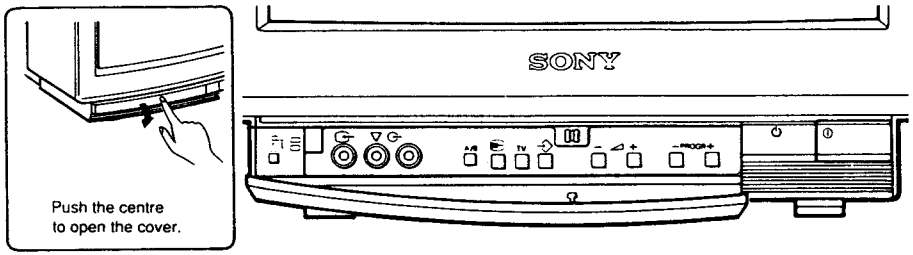
SECTION 1
GENERAL

1-1. INDEX

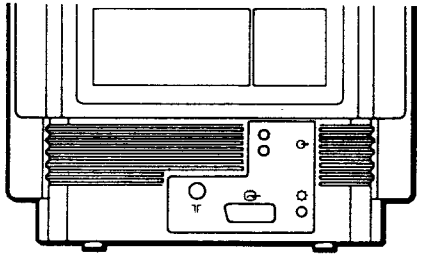
The function of the marks on the TV and Remote Commander are briefly described here. For the operation of each function, see the given page.

TV

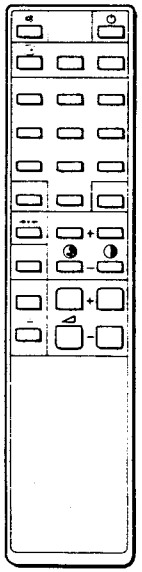
Front



Rear



Remote Commander



TV

Mark	Function
	Infrared sound emission on/off button
A/B	A mode/B mode indicator
	Video input jack
	Audio L/R input jacks Connect monaural sound to ▽ L/G/S/I(left).
A/B	A or B sound mode select button
	Sound or picture adjustment item select button
TV	This button is not used on this unit. This button is for the model with the teletext receiving function.
	Preset mode on/off button
	Sound or picture adjustment buttons
PROGR	Programme scanning buttons
	Remote control detector
	Standby indicator
	Power on/off switch
	Brightness control. Located at the rear.
	21-pin connector. Located at the rear.

Mark	Function
	Antenna terminal. Located at the rear.
L/G/S/I R/D/D/D	Audio L/R output jacks. Located at the rear.
Speaker	Located at the top
Battery charger	Used for headphones batteries. Located at the top.
	Charge mode selector. Located at the top.
Infrared sound emitter	Located at the top of the front panel.
On-screen display	Appears in the upper right-hand corner of the screen. Indicates the programme number or input mode.
Bar display	Appears at the bottom of the screen. Indicates the programme position or volume or colour adjustment level.
Stand	Attached at the bottom of the unit. Able to change the angle of the screen.

Remote Commander

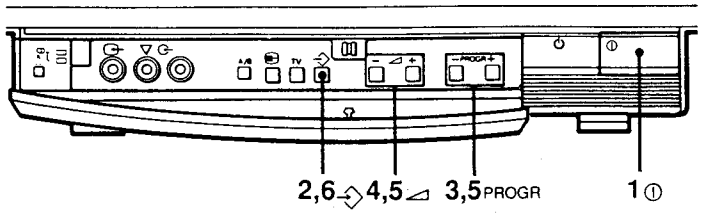
Mark	Function
	Sound muting button
	On-screen display on/off button
	Restoring factory-set level button
	Input select button
	Power on/off switch
TV	This button is not used on this unit. This button is for the model with the teletext receiving function.

Mark	Function
1~9 1–, 2–	Number buttons. 1– for 10's digit. 2– for 20's digit
	Colour intensity adjustment buttons
	Picture contrast adjustment buttons
	Volume adjustment buttons
PROGR	Programme scanning buttons

1-2. CHANNEL PRESETTING

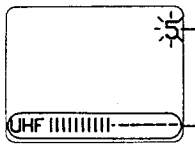
You can preset up to 30 (0 – 29) channels in sequence.

Example: Presetting channel 2 in the programme position 1



1 Press ⏻ to turn on the TV.

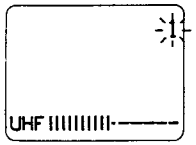
2 Press ⇳ to set the preset mode.



Current programme position flashes.

Indicates the approximate location in the band of the channel being tuned in now.

3 Press PROGR – to select the programme position 1.
Use PROGR + to go forward and PROGR – to go backward.

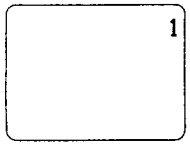


4 Press ◿ + or – repeatedly until the programme of the channel 2 broadcast appears clearly.

Remains unchanged.

5 Repeat steps 3 and 4 for all other desired channels.

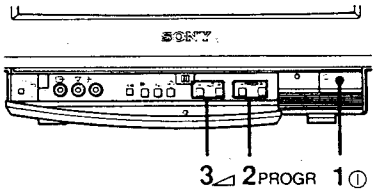
6 Press ⇳ again to return to the TV mode.

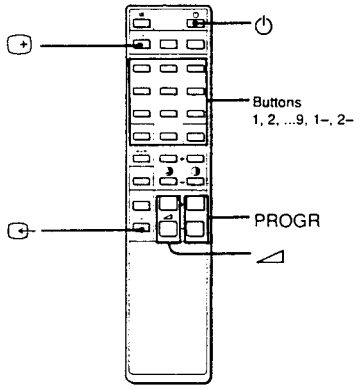


Channel 2 picture in the programme position 1

1-3. WATCHING TV PROGRAMMES

You can operate the TV on the TV itself or with the Remote Commander.
The Remote Commander has the most basic operation buttons. Please do not lose it.





1 Press ⏻ to turn the TV on.

2 Select the programme.

For scanning all programmes

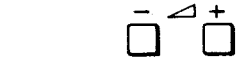
Number button on the Remote Commander

Example:
for programme position 2, press 2.

for programme position 14, press 1– and then 4.

for programme position 25, press 2– and then 5.

3 Press ◿ to adjust the volume.



to turn the volume up

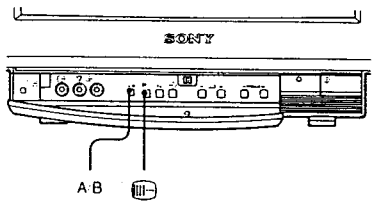
to turn the volume down

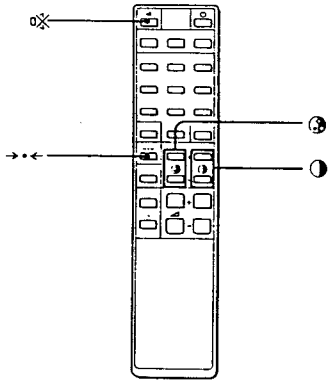
When you want	On the Remote Commander	On the TV
to turn off the TV for the short time (standby)	Press ⏻.	(⏻ lights up.)
to turn on the TV from the standby mode	Select the programme with number buttons or PROGR + or –.	Select the programme with PROGR + or –.
to cut off the power completely (before sleeping or going out)	—	Press ⏻.
to make the on-screen display appear or disappear	Press ⊙.	—
to switch the on-screen display between the programme number and input mode	Press ⊙.	—

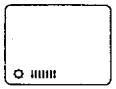
Note
If the power is cut off in the standby mode, the standby indicator will take 2 to 6 seconds to go off.

1-4. PICTURE AND SOUND ADJUSTMENT

In order to enjoy the best picture, adjust the picture and sound according to the brightness of your room or the input source.





Adjusting item	On the Remote commander	On the TV
Colour intensity	Press ◐ + or –.	Press ⊞ until ◐ with bar display appears. Then press ◿ + or –.
Picture contrast	Press ◑ + or –.	Press ⊞ until ◑ with bar display appears. Then press ◿ + or –.
Brightness 	—	Turn ☼ at the rear.
To reset the colour intensity and picture contrast to the factory-set levels	Press →•←.	—
To mute the sound and restore the sound	Press 🔇.	—

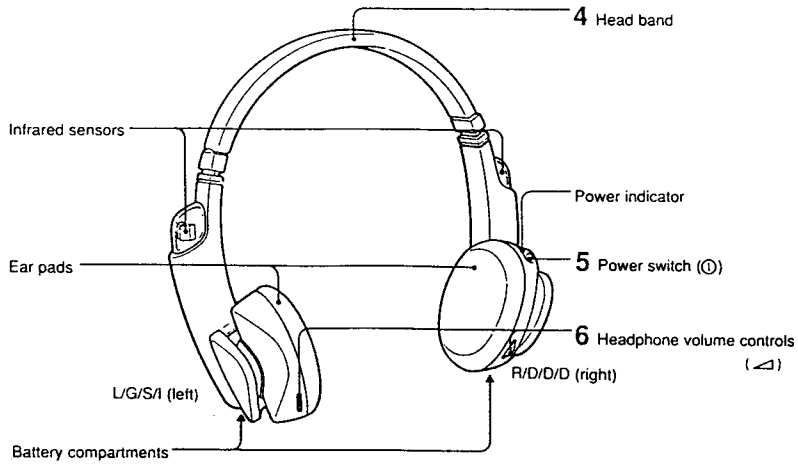
This TV receives a West German stereo system programme automatically.
When the TV receives a West German stereo system programme, the A and B mode indicators light up.

Listening to a West German bilingual system programme
Either A or B mode indicator lights up during a bilingual broadcast.
To select A, press A/B to depress (▬).
To select B, press A/B to release (▭).
The respective mode indicator lights up.

Note
To listen to the stereo sound, use the cordless headphones, or use external audio equipment by IN/OUT terminals.
The TV speaker outputs only the monaural sound.

1-5. LISTENING WITH THE CORDLESS HEADPHONES

With the cordless headphones, you can listen to the stereo sound.



1 Insert the batteries.

2 Press ⏻ on the TV.

3 Press 🎧 on the TV. (▬ On, ▭ Off)

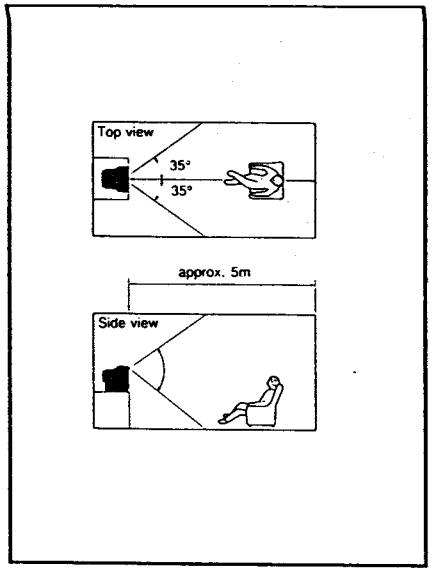
4 Adjust the length of the head band.

5 Press ⏻ on the headphones to turn on the power.
The power indicator lights up.

6 Adjust the left and right ◿ so that the sound level of both channels are equal.

After using, press ⏻ on the headphones to turn the power off.
The power indicator goes off.

Notes
- Operating the ◿ controls on the headphones changes only the volume output from the headphones, and does not change the volume output from the TV.
- The left and right volumes of the headphones can be adjusted individually.



Positioning the TV

The illustration below shows the approximate effective range of the infrared rays emitted from the TV. Position the TV so that your listening area is within the effective range. The infrared rays will not penetrate walls or opaque glass, therefore the headphones must be used "in sight" area of the TV.

Battery life

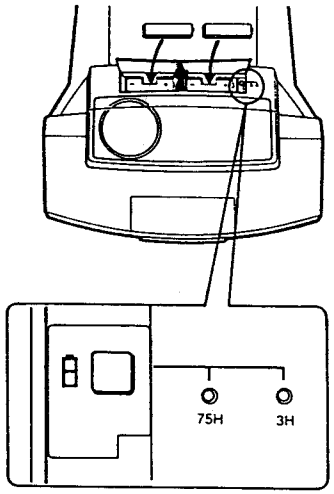
When the battery becomes weak, the power indicator will be dim and sound will be noisy. When this happens, replace the batteries.
The batteries will last approximately as follows when used continuously.

R6 battery (Alkaline)	90 hours
R6 battery (Manganese)	45 hours
NC-6WM rechargeable battery	25 hours
NC-5WM rechargeable battery	20 hours

Notes

- Be sure to remain in the effective range of the infrared rays while listening.
- Do not cover the infrared sensors with your hands or hair. If the infrared sensors are covered, you are not able to listen to the TV sound as the infrared ray is interrupted.
- The headphones are automatically turned off three hours after being turned on in order to prevent the unconscious battery waste.
- Do not use the headphones under the direct sunlight. You may not hear any sound.
- If you use the headphones under the incandescent lamp, a noise may increase.

When You Use the NC-6WM or NC-5WM Rechargeable Batteries



This TV charges the batteries.

1 Turn on the TV or set the TV in standby mode.

2 Always insert two batteries in the battery charger at the top of the cabinet.

Caution

Be sure to insert two batteries for charging. The charger does not work when only one battery is inserted.

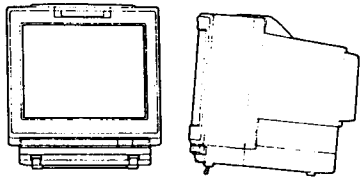
The 75H indicator lights up and charging in the 75H mode starts. Both batteries will be fully charged after 75 hours. There is no indication that charging has completed. Even though the batteries are left in the battery charger and kept charged, they are not damaged.

To charge the batteries quickly – 3H mode charging

After inserting batteries (75H indicator lights up), press ◀◀. Then the 3H indicator lights up.
Both batteries will be charged after 3 hours. When the batteries are fully charged, the 3H indicator goes off and the 75H indicator lights up.
To cancel the 3H mode, press ◀◀. Then the 3H indicator goes off. The 75H indicator lights up.

Notes

- We recommend to use the 3H mode for the empty batteries. If it is used to charge the batteries with much power left, the batteries may be damaged gradually.
- The TV charges the batteries during operation and standby mode. When the power of the TV is completely turned off, the TV does not charge.

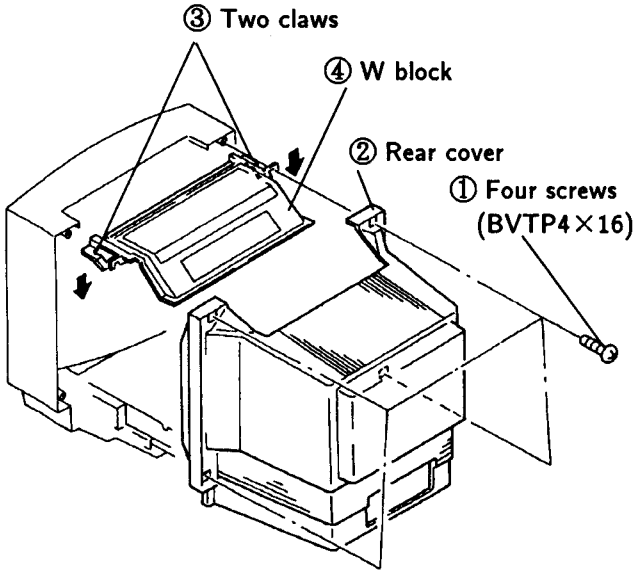


Using the stand

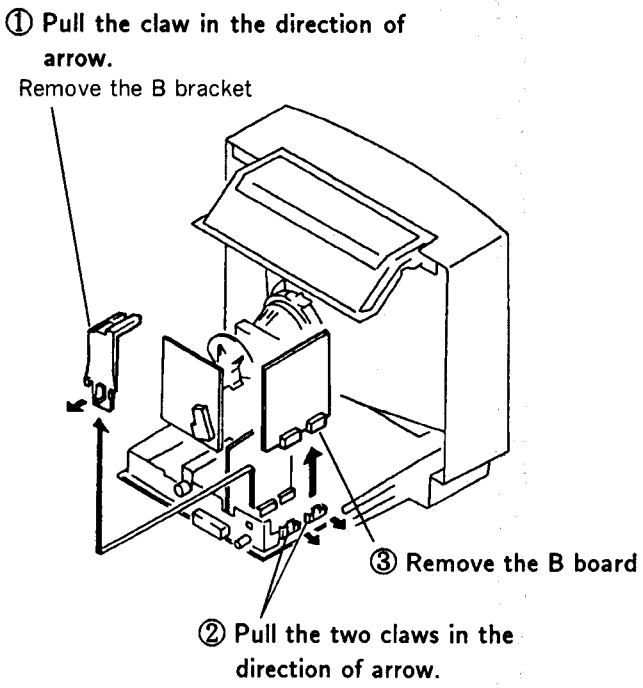
By raising the stand, the screen can be turned a little upward.

SECTION 2
DISASSEMBLY

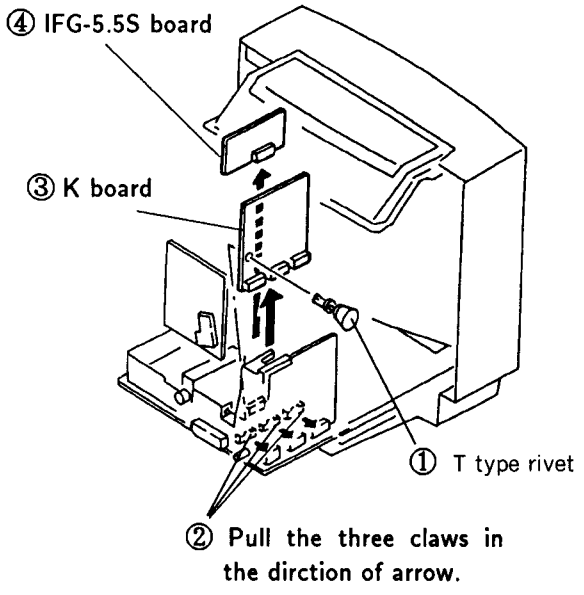
2-1. REAR COVER AND W BLOCK REMOVAL



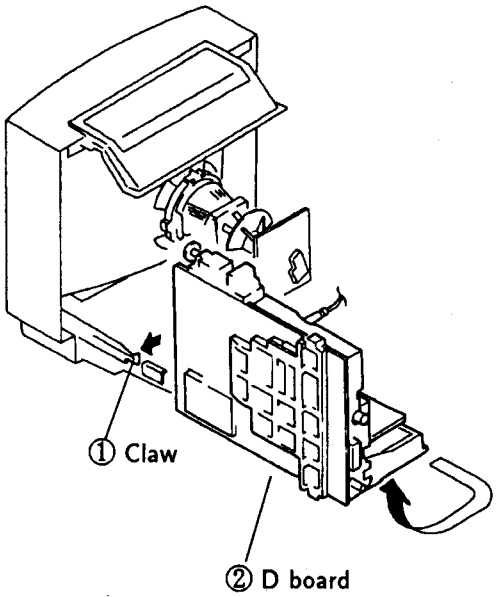
2-2. B BOARD REMOVAL


① Pull the claw in the direction of arrow.
Remove the B bracket
③ Remove the B board
② Pull the two claws in the direction of arrow.

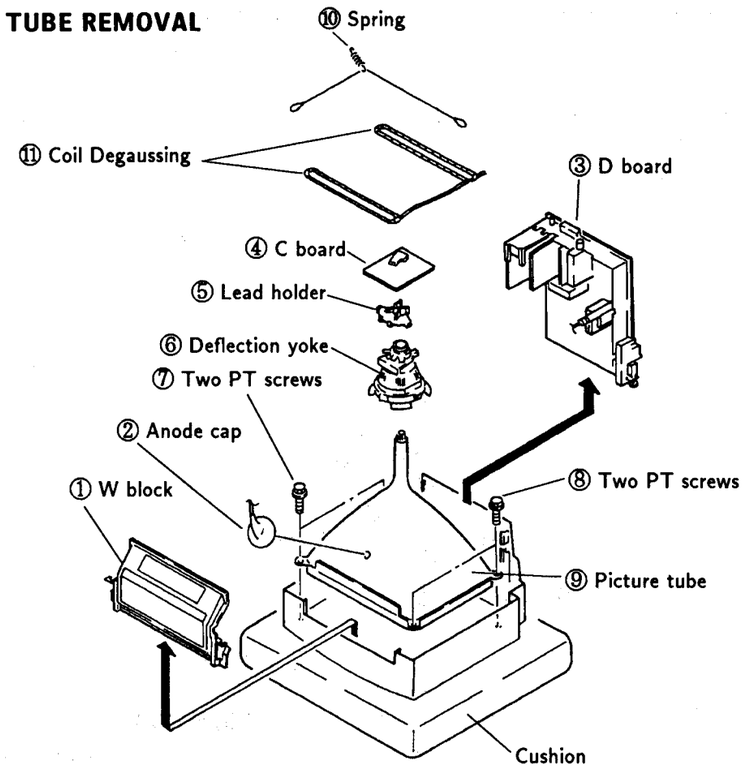
2-3. K AND IFG-5.5S BOARD REMOVAL



2-4. SERVICE POSITION

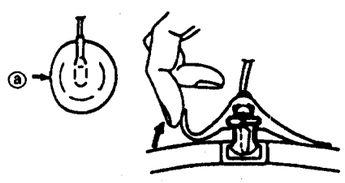


2-5. PICTURE TUBE REMOVAL

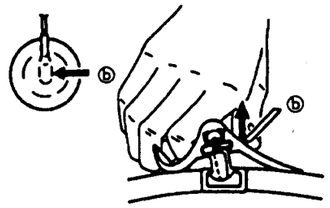


• REMOVAL OF ANODE-CAP

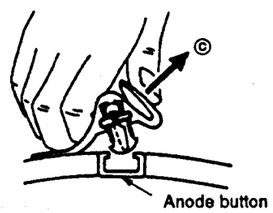
• REMOVING PROCEDURES



① Turn up one side of the rubber cap in the direction indicated by the arrow ⓐ.



② Using a thumb pull up the rubber cap firmly in the direction indicated by the arrow ⓑ.



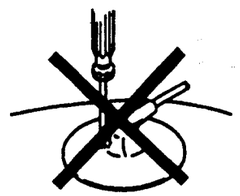
③ When one side of the rubber cap is separated from the anode button, the anode-cap can be removed by turning up the rubber cap and pulling up it in the direction of the arrow ⓒ.

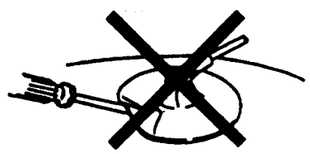
• HOW TO HANDLE AN ANODE-CAP

① Don't hurt the surface of anode-caps with sharp shaped material!

② Don't press the rubber hardly not to hurt inside of anode-caps!
A material fitting called as shatter-hook terminal is built in the rubber.

③ Don't turn the foot of rubber over hardly!
The shatter-hook terminal will stick out or hurt the rubber.





SECTION 3
SET-UP ADJUSTMENTS

● The following adjustments should be made when a complete realignment is required or a new picture tube is installed.

● These adjustments should be performed with rated power supply voltage unless otherwise noted.

The control and switch below should be set as follows unless otherwise noted :

◑ CONTRASTcontrol ····· 80%(or Normal by commander)

☼ BRIGHTNESS control ····· 50%

Perform the adjustments in order as follows:

1. Beam Landing
2. Convergence
3. Focus
4. Screen (G 2) and White Balance

Note: Test Equipment Required.

1. Color bar/Pattern Generator
2. Degausser
3. DC Power Supply
4. Digital multimeter
5. Oscilloscope

Preparation:

● Set the side of the unit with the PICTUE TUBE so that it faces east or west in orber to reduce the influene of external magnetic force.

● Turn the power switch for the unit ON and erase the magnetic force using a degausser..

3-1. BEAM LANDING

Demagnetize with a degausser

1. Input a raster signal with the pattern generator.
   CONTRAST
   BRIGHTNESS } normal
2. Turn the raster signal of the pattern generator to red.
3. Move the deflection yoke backward, and adjust with the purity control so that red is in the center and blue and green are at the sides evenly. (Fig.3-1 - 3-3)
4. Move the deflection yoke forward, and adjust so that the entire screen becomes red. (Fig.3-1)
5. Switch over the raster signal to blue and blue and confirm the condition.
6. When the position of the deflection yoke is determined,tighten it with a deflection yoke mounting screw.
7. When landing at the corner is not right, adjust by using the disk magnets. (Fig.3-4)

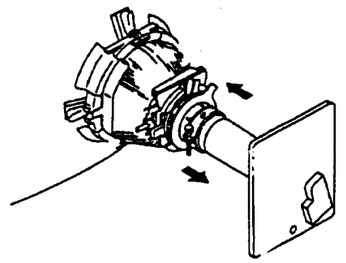


Fig.3-1

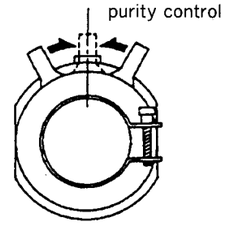


Fig.3-2

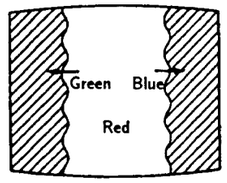


Fig.3-3

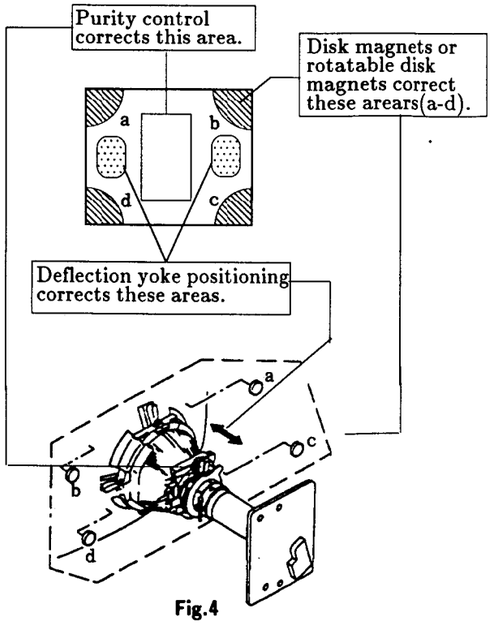


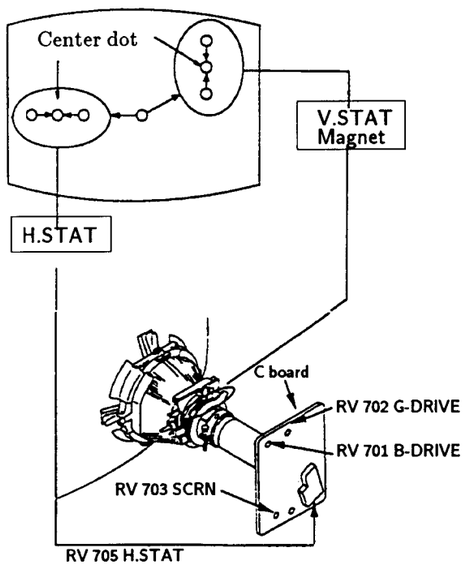
Fig.4

3-2. CONVERGENCE

Preparation:

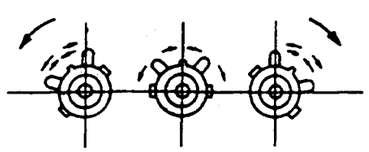
- Before starting, perform FOCUS, H.SIZE, and V. SIZE adjustments.
- Set BRIGHTNESS control to minimum.
- Feed in the dot pattern.

(1) Horizontal and Vertical Static Convergence

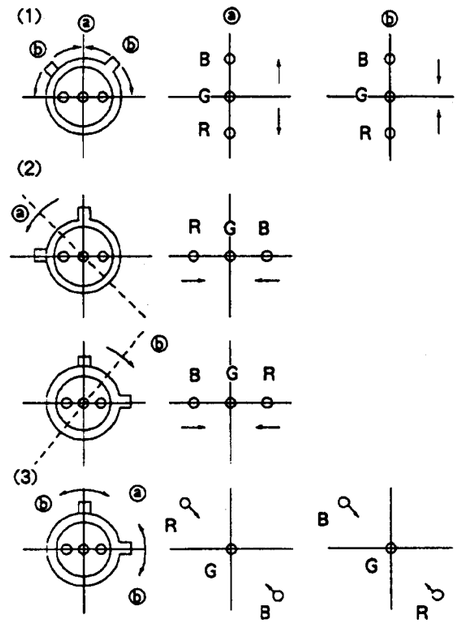


1. Adjust H.STAT VR to converge red, green and blue dots the in center of the screen.(Horizontal movement)
2. Adjust V. STAT magnet to converge red, green and blue dots in the center of the screen. (Vertical movement)
3. If the red, green and blue dots do not converge on the center of screen with H.STAT VR, perform horizontal convergence adjustment using H.STAT VR and V.STAT magnet as shown below. (In this case, H.STAT VR and V.STAT magnet effect each other.)

- Tilt the V.STAT magnet and adjust static convergence to open or close the V.STAT magnet.



4.When the V.STAT magnet is moved in the direction of arrow ⓐ and ⓑ, red, green and blue dots move as shown below.

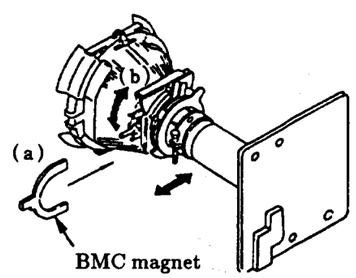


If the red and blue dot do not converge with green dots, perform following steps.

Move BMC magnet (a) to correct insufficient H.static convergence.

Rotate BMC magnet (b) to correct insufficient V.static convergence.

In either case, repeat Beam Landing Adjustment.

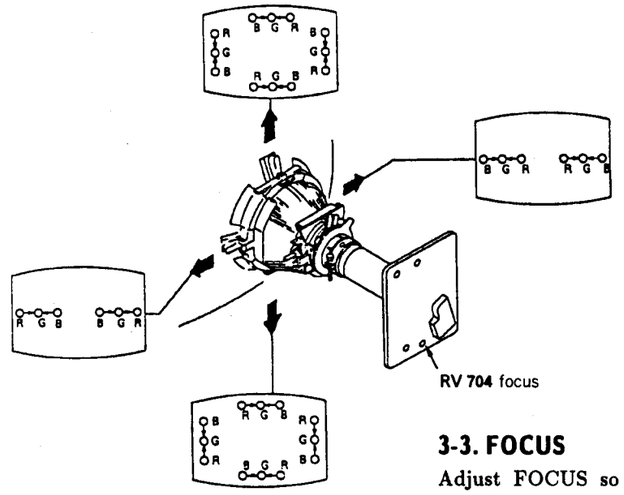


(2)Dynamic Convergence Adjustment

Preparation:

- Before starting perform Horizontal and Vertical static convergence Adjustment.

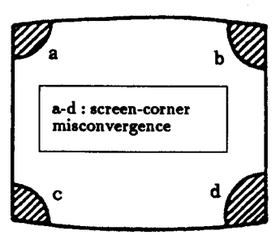
1. Slightly loosen deflection yoke screw.
2. Remove deflection yoke spacers.
3. Move the deflection yoke for best convergence as shown below.
4. Tighten the deflection yoke screw.
5. Install the deflection yoke spacers.

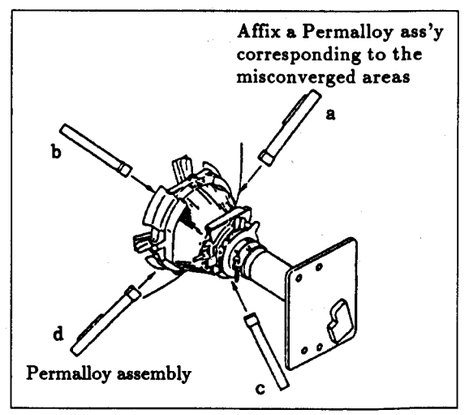


3-3. FOCUS

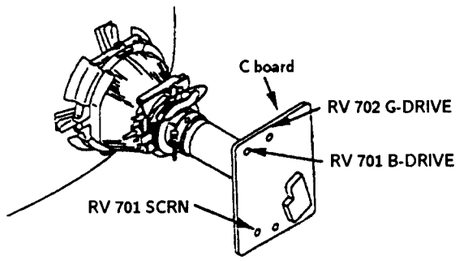
Adjust FOCUS so that the whole screen is in best focus.

(3) Screen-corner Convergence





3-4. SCREEN (G 2) and WHITE BALANCE



Screen (G 2) Setting

1. Input dot signal from the pattern generator.
2. Set the picture BRIGHTNESS control to minimum level.
3. Apply 140 V DC to the cathodes of R,G and B from an external power source.
4. While watching the picture, adjust the G 2 volume (RV 701) immediately before fly-back line disappears.

White Balance Adjustment

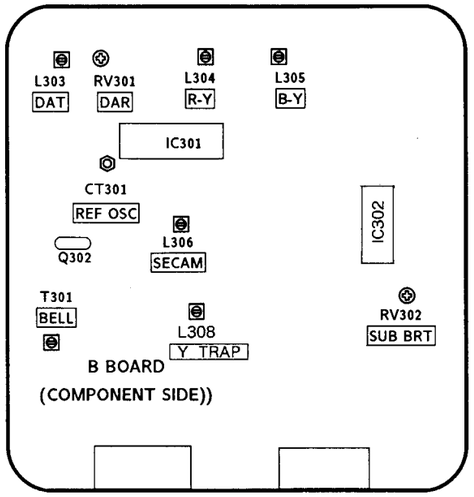
1. Input all-white signal from the pattern generator.
2. Adjust the BRIGHTNESS and COLOR controls to the standard level.
3. Adjust the following using RV 704 (B LEVEL) and RV 703 (G LEVEL)

In the following adjustments, the CONTRAST COLOR and BRIGHTNESS controls are set to normal unless otherwise specified.

SECTION 4

CIRCUIT ADJUSTMENTS

4-1. B BOARD ADJUSTMENTS

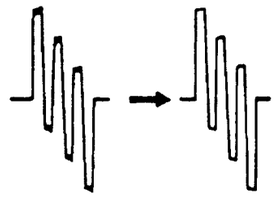


REF OSC Adjustment (CT301)

1. Input a PAL COLOR BAR pattern.
2. Short circuit between pin⑰ of IC301 and ground.
3. Adjust CT301 to obtain color synchronization.
4. Remove the jumper wire form IC301.

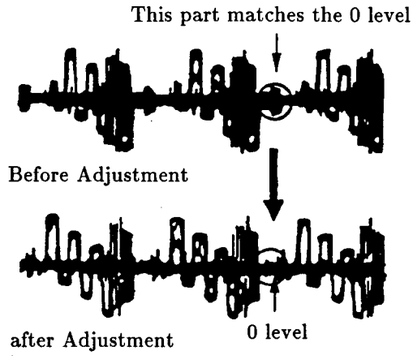
1H DELAY LINE Adjustment (L303 DAT, RV301, DAR)

1. Input a PAL COLOR BAR pattern.
2. Connect the oscilloscope to the pin③ (B-Y) of IC 301 and observe the waveform of H block on the oscilloscope.



Before Adjustment After adjustment

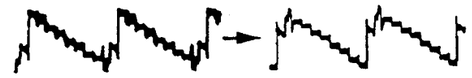
3. Adjust L303 to minimize to double waveform outline.
4. Input TEST COLOR BAR pattern.
5. Rotate the RV301 VR and adjust till the ANT PAL part of waveform matches the 0 level.



6. L303 and RV301 affect each other. so repeat till the conditions of both are met.

Y TRAP 4.25MHz Adjustment (L308)

1. Input a SECAM COLOR BAR pattern.
2. Connect pin⑮ of IC302 to the oscilloscope and adjust L308 so that the waveform level becames minimum.



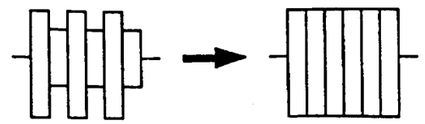
Before Adjustment after Adjustment

SECAM ID Adjustment (L306)

1. Input a SECAM COLOR BAR pattern.
2. Connect a Digital Multimeter at pin of IC301.
3. Adjust L306 so that the indicator goes up to the maximum.

BELL FILTER Adjustment (T301)

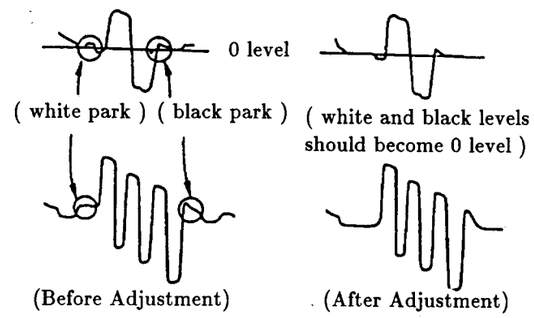
1. Input a SECAM COLOR BAR Pattern.
2. Connect an oscilloscope to the Q302 emitter.
3. Adjust T301 so that the waveform becomes flat.



Before Adjustment After Adjustment

SECAM DISCRI Adjustment (L304 R-Y, L305 B-Y)

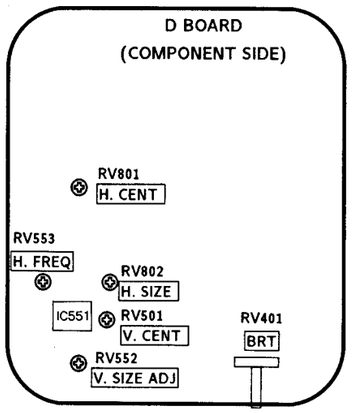
1. Input a SECAM COLOR BAR Pattern.
2. Connect an oscilloscope to pin① of IC301.
3. Adjust L304 (R-Y) so that white and black parts of the waveform of pin① becomes 0 level.
4. Connect an oscilloscope to the pin③ of IC301.
5. Adjust L305 (B-Y) so that white and black parts of the waveform of pin③ becomes 0 level.



SUB BRT Adjustment (RV302)

1. Input a PAL COLOR BAR signal.
2. Set CONTRAST and COLOR volume to a minimum, and set the BRIGHTNESS volume control to the mechanical center.
3. Slowly rotate SUB BRT (RV302) until the portion is faintly illuminated.

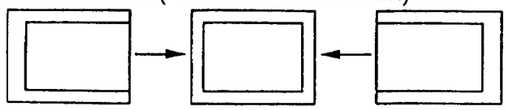
4-2. D BOARD ADJUSTMENTS



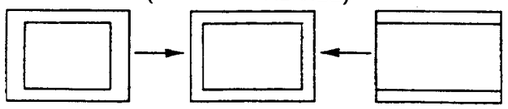
TU AGC (RF AGC)

1. Turn in air signals.
2. Adjust AGC VR (RF AGC) so that snow-noise and crossmodulation just disappear from the picture.

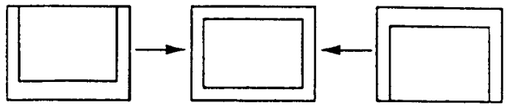
RV801 H.CENT (HORIZONTAL CENTER)



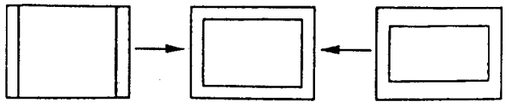
RV802 H.SIZE (HORIZONTAL SIZE)



RV501 V.CENT (VERTICAL SIZE)



RV552 V.SIZE (VERTICAL SIZE)

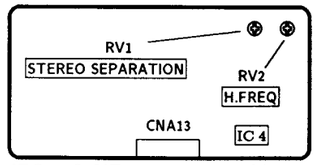


H. FREQ (RV553)

1. Input a PAL COLOR BAR signal, then connect an electrolytic capacitor (100μ/16V) between pin⑤ and GND IC551.
2. Adjust RV553 (H.FREQ) to stop scrolling of the picture in the horizontal direction.
3. After adjustment, remove the electrolytic capacitor.

fo : too low fo : suitable fo : too high
fo ; 15.625±50Hz

IFG5.5S SIF



IFG5.5S SIF -component side-

STEREO SEPALATION ADJUSTMENT (RV1)

1. Input stereo signals. (L-CH 400Hz, R-CH 1KHz)
2. Check the stereo indicator.
3. Connect on oscilloscope to pin8 (CH1) of CND49 through band pass filter of 1KHz
4. Adjust RV1 so that 1KHz voltage goes down to the minmum.

H FREQ (RV2)

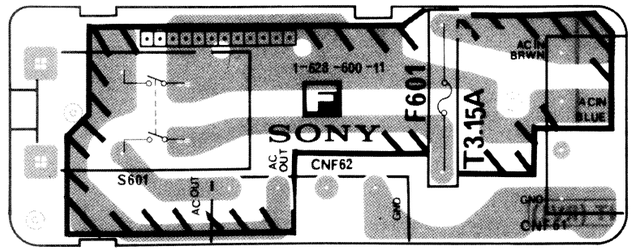
Input a PAL COLOR BAR signal, then connect a jumper between pin⑫ IC4 and GND.
Connect a frequency counter to pin⑨ IFG5.5S (HP) through a probe of 10 : 1.
Adjust RV2 (H.FREQ) 15.625±50Hz.
After adjustment, remove the jamper.

KV-H1610D MDR-IF510/RM-658

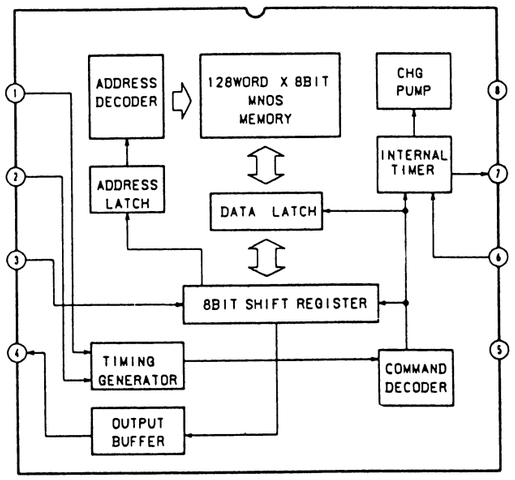
SECTION 5
DIAGRAMS

5-1. PRINTED WIRING BOARDS AND SCHMATIC DIAGRAMS

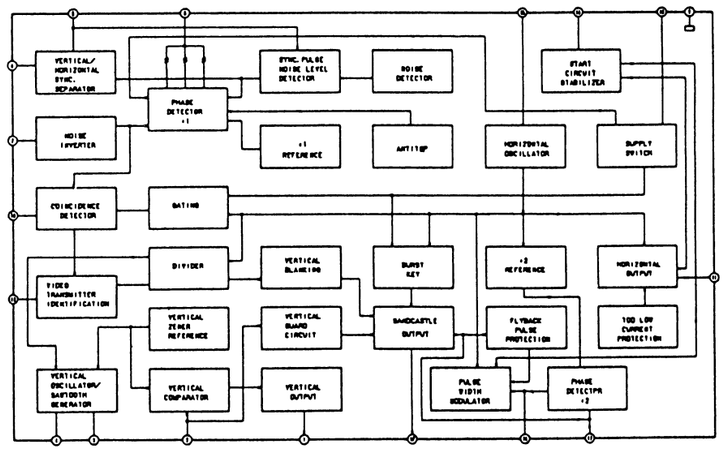
– F Board –



D BOARD IC002 CXK1012P

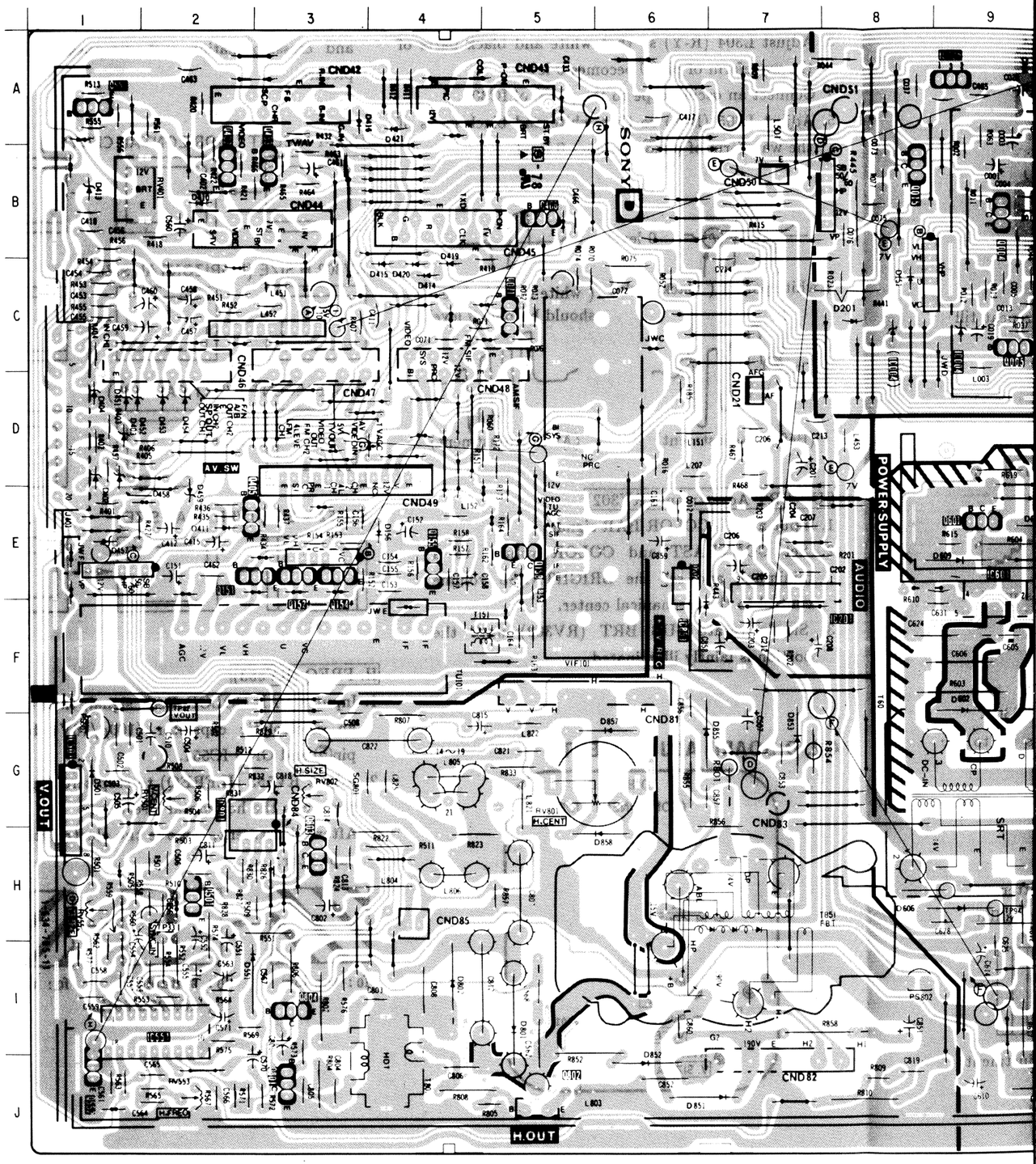


D BOARD IC551 TDA2579A-N8

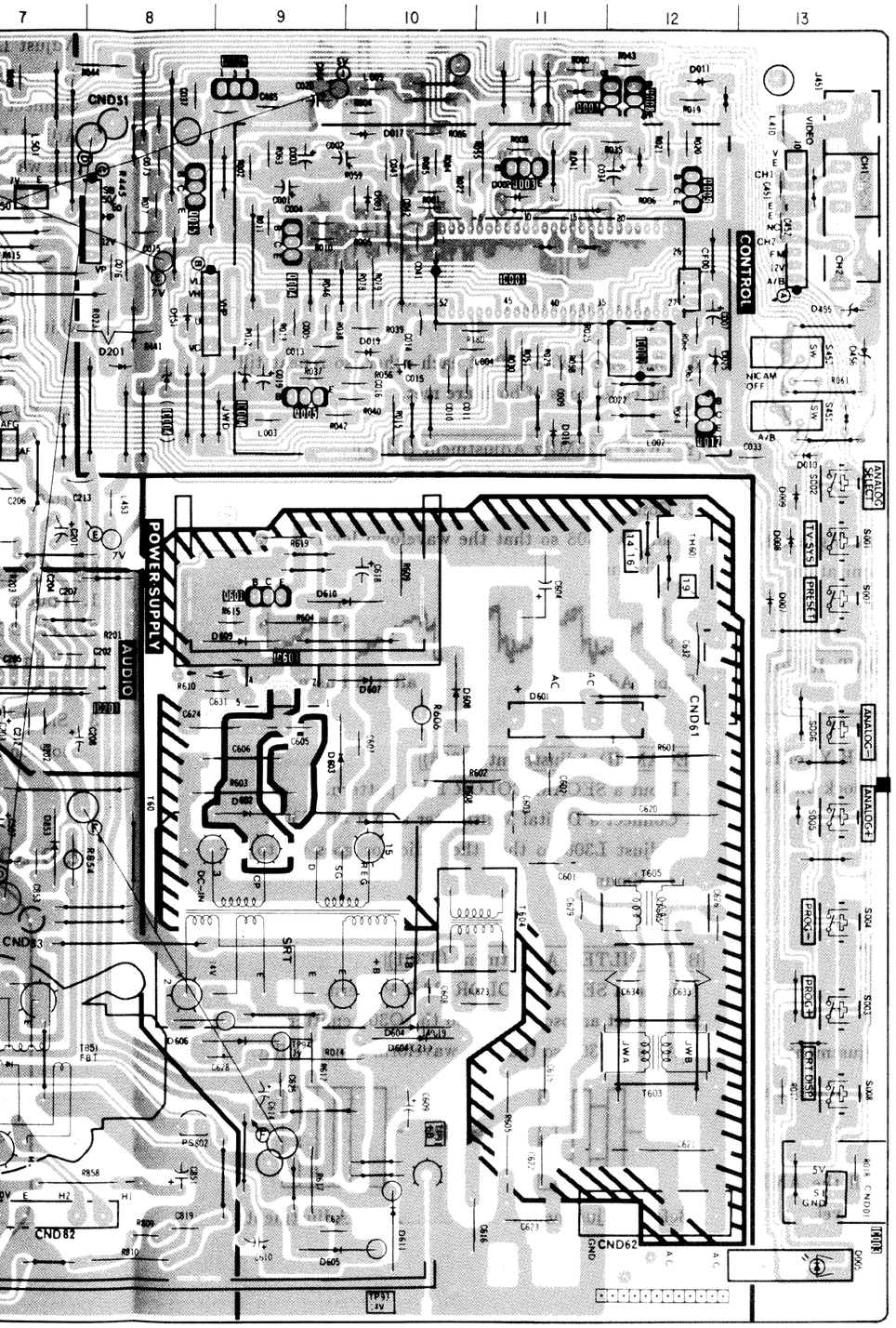


[POWER] F D [Y-CHOROMA JUNGLE V-H DEF]

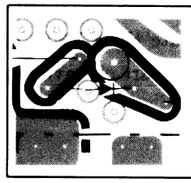
– D Board –



KV-H1610D
MDR-IF510/RM-658

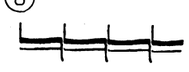
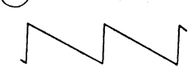
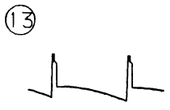
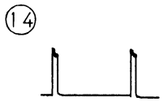
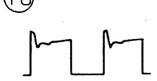
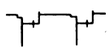


IC		DIODE			
IC001	B-11	D002	B-11	D601	F-11
IC002	C-12	D003	B-10	D602	F-9
IC003	I-13	D005	J-13	D603	F-9
IC004	C-9	D007	E-13	D604	H-10
IC005	A-9	D008	D-13	D605	J-9
IC201	E-7	D009	D-13	D606	H-9
IC501	G-1	D010	D-13	D607	E-10
IC551	I-1	D011	A-12	D608	F-10
IC601	E-9	D016	D-11	D609	E-9
IC801	G-2	D017	A-10	D610	E-9
IC851	E-6	D019	C-10	D611	J-10
		D025	C-12	D801	I-5
TRANSISTOR		D151	C-8	D802	I-4
		D156	E-4	D851	J-6
Q001	A-11	D201	C-8	D852	J-6
Q003	A-11	D202	F-6	D853	G-7
Q004	B-9	D402	D-1	D855	G-6
Q005	C-9	D403	D-1	D857	G-6
Q008	A-12	D404	D-1	D858	H-5
Q009	B-12	D410	B-2	VARIABLE RESISTOR	
Q012	C-12				
Q015	B-8	D411	E-2	RV401	B-2
Q071	C-5	D413	B-1	RV501	G-2
Q151	E-2	D414	C-4	RV552	H-1
		D415	C-4	RV553	J-2
Q152	E-3	D416	A-3	RV801	G-5
Q154	E-3			RV802	G-3
Q155	E-4	D419	C-4		
Q158	E-5	D420	C-4		
Q402	B-2	D421	A-4		
		D451	D-1		
Q405	E-2	D452	D-1		
Q406	B-5				
Q453	B-3	D453	D-2		
Q501	H-2	D454	D-2		
Q551	A-1	D455	C-13		
		D456	C-13		
Q552	J-1	D457	E-1		
Q601	E-9				
Q801	J-3	D458	D-1		
Q802	J-5	D459	E-2		
Q803	H-3	D501	G-1		
Q804	I-3	D551	I-2		

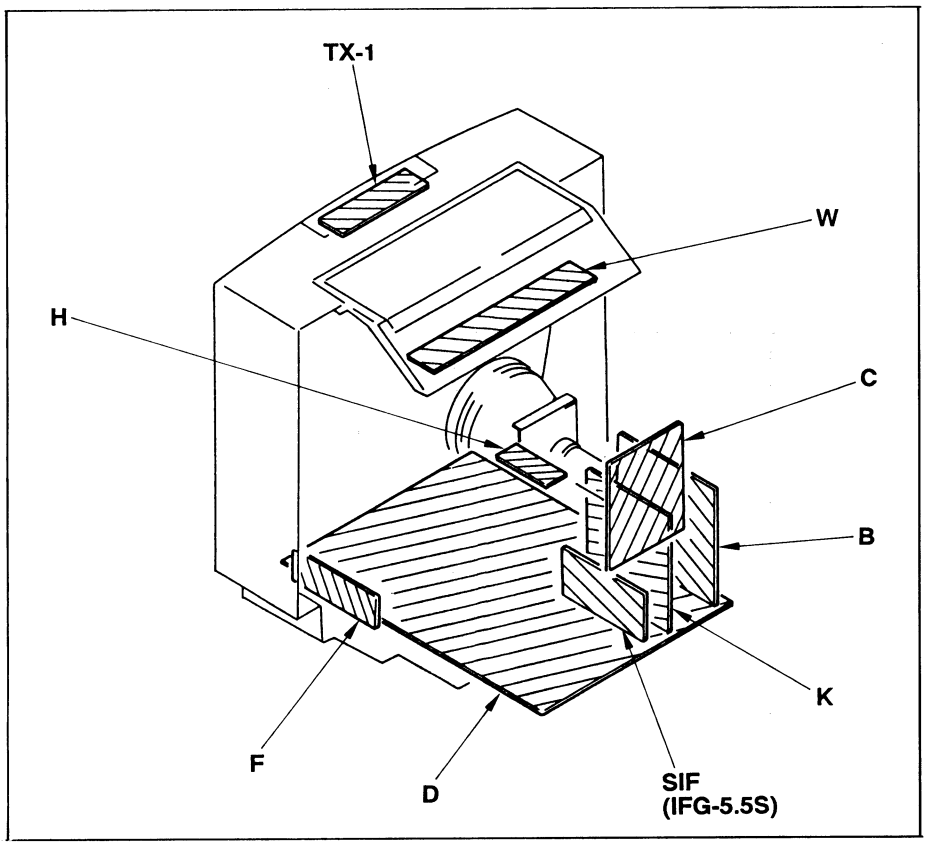


NOTE:
The circuit indicated as left contains high voltage of over 600 Vp-p. Care must be paid to prevent an electric shock in inspection or repairing.

D BOARD WAVEFORMS

① 4.8Vp-p(4MHz)	② 5 Vp-p(V)	③ 7.4Vp-p (H)
④ 1 Vp-p (H)	⑤ 11 Vp-p (H)	⑥  3.6 Vp-p (V)
⑦ 0.9Vp-p (V)	⑧ 1.7Vp-p (H)	⑨ 3.7 Vp-p(H)
⑩ 6.0Vp-p (H)	⑪  3.0Vp-p (H)	⑫ 10 Vp-p (H)
⑬  52 Vp-p (V)	⑭  28Vp-p (V)	⑮ 1.8Vp-p (V)
⑯ 2.2Vp-p (V)	⑰ 3 Vp-p (H)	⑱  80Vp-p (H)
⑲  11 Vp-p(H)	⑳ 760Vp-p(H)	㉑ 140Vp-p (H)
㉒ 9 Vp-p (V)		

5-2. CIRCUIT BOARDS LOCATION



Note:

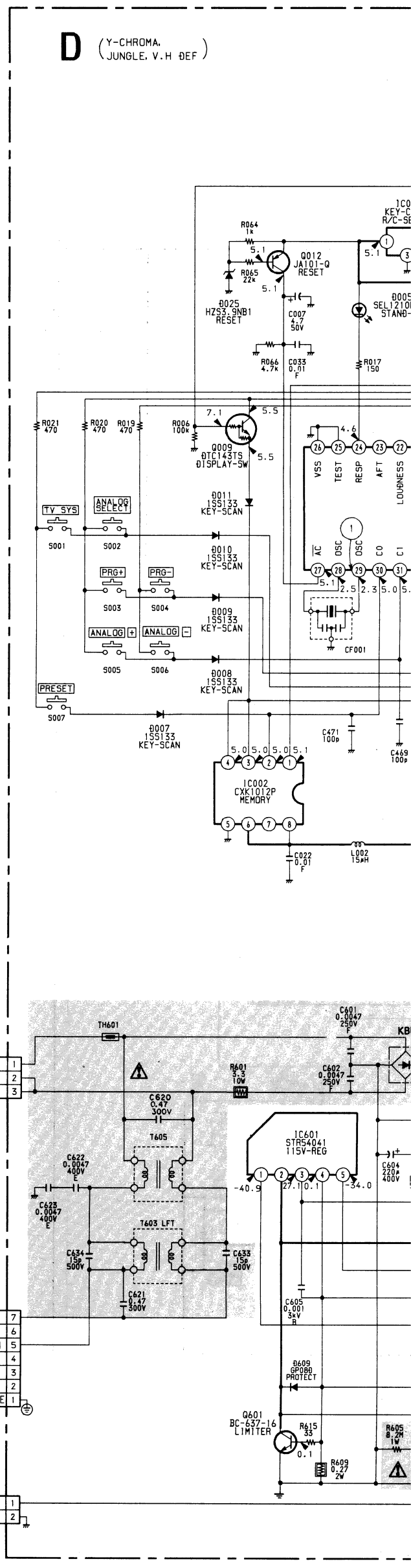
- All capacitors are in μF unless otherwise noted. pF: μμF 50 WV or less are not indicated except for electrolytics.
- Indication of resistance, which does not have one for rating electrical power, is as follows.

  Pitch: 5 mm
  Rating electrical power ¼ W
- All resistors are in ohms.
- : nonflammable resistor.
- : fusible resistor.
- △ : internal component.
- : panel designation, and adjustment for repair.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- All voltages are in V.
- Readings are taken with a 10 MΩ digital multimeter.
- Readings are taken with a PAL color-bar signal input.
- Voltage variations may be noted due to normal production tolerances.
- ——— : B + bus.
- — — — : B − bus.
- ▒▒▒ : signal path.

Reference information

RESISTOR	: RN	METAL FILM
	: RC	SOLID
	: FPRD	NONFLAMMABLE CARBON
	: FUSE	NONFLAMMABLE FUSIBLE
	: RW	NONFLAMMABLE WIREWOUND
	: RS	NONFLAMMABLE METAL OXIDE
	: RB	NONFLAMMABLE CEMENT
COIL	: LF-8L	MICRO INDUCTOR
CAPACITOR	: TA	TANTALUM
	: PS	STYROL
	: PP	POLYPROPYLENE
	: PT	MYLAR
	: MPS	METALIZED POLYESTER
	: MPP	METALIZED POLYPROPYLENE
	: ALB	BIPOLAR
	: ALT	HIGH TEMPERATURE
	: ALR	HIGH RIPPLE

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.



D (Y-CHROMA, JUNGLE, V.H ĐEF)

TU101 UV617 (AGC, 12V, VL, VH, U, VC, 5V, FB, FB, GND, IF, IF)

IC003 KEY-COOSV R/C-SENSOR

Q012 JA101-Q RESET

Đ025 HZS3.9NB1 RESET

Đ005 SEL1210R-CĐ STANĐ-BY

Q003 ĐTA124ES STANĐ-BY

Q001 ĐTC124ES VIĐEO-MUTE

Đ017 1SS133 COL-CTL

Đ003 1SS133 VOL-CTL-1

Q008 ĐTC124ES TV/AV

Q151 ĐTA114ES BANĐ-VL

Q152 ĐTA114ES BANĐ-VH

Q154 ĐTA114ES BANĐ-U

Q155 JC501-Q VC-FILTER

Đ156 1SS133 VC-BIAS

Q009 ĐTC143TS ĐISPLAY-SW

Đ002 1SS133 R/C-MODE

Q004 JC501-Q VC-OUT

IC004 HZT33-02 30V-REG

IC001 M50436-618SP TUNING-CTL

Đ011 1SS133 KEY-SCAN

Đ010 1SS133 KEY-SCAN

Đ009 1SS133 KEY-SCAN

Đ008 1SS133 KEY-SCAN

Đ007 1SS133 KEY-SCAN

Đ151 1SS133 BANĐ-SW

IC002 CXK1012P MEMORY

Đ016 1SS133 PROTECT

Đ019 1SS133 PROTECT

Q005 JC501-Q ON-SCREEN

IC005 L7805CV 5V-REG

Q015 JC501-Q ABL

Q551 JA101-Q VIĐEO-AMP

Q501 JC501-Q V.SIZE

IC551 TĐA2579A-N8 JUNGLE

Q071 JA101-Q SYNC-SEP

Đ501 GP08Đ BOOST

Q551 GP08Đ CURRENT-SW

Q804 JC501-Q ST/BY-SW

IC601 STR54041 115V-REG

Đ602 ES1F PULSE-CLIP

Đ604 RGP15J 119V-RECT

Đ611 R2M PROTECT

Đ605 BYĐ33G 15V-RECT

Đ606 ERA81-004 7V-RECT

Đ607 BYĐ33G REF.RECT

Đ603 GP08Đ ĐC-STOP

Đ610 GP08Đ PROTECT

Đ609 GP08Đ PROTECT

Đ608 BYĐ33G ĐC-STOP

Q601 BC-637-16 LIMITER

IC201 TĐA1013A AF-OUT

Đ201 1SS133 AF-MUTE

Đ202 1SS133

IC501 μPC1488H V.OUT

Q801 2SC2688-LK H.ĐRIVE

Đ501 GP08Đ BOOST

TH601 D601 KBU4JL-6088

T601 SRT

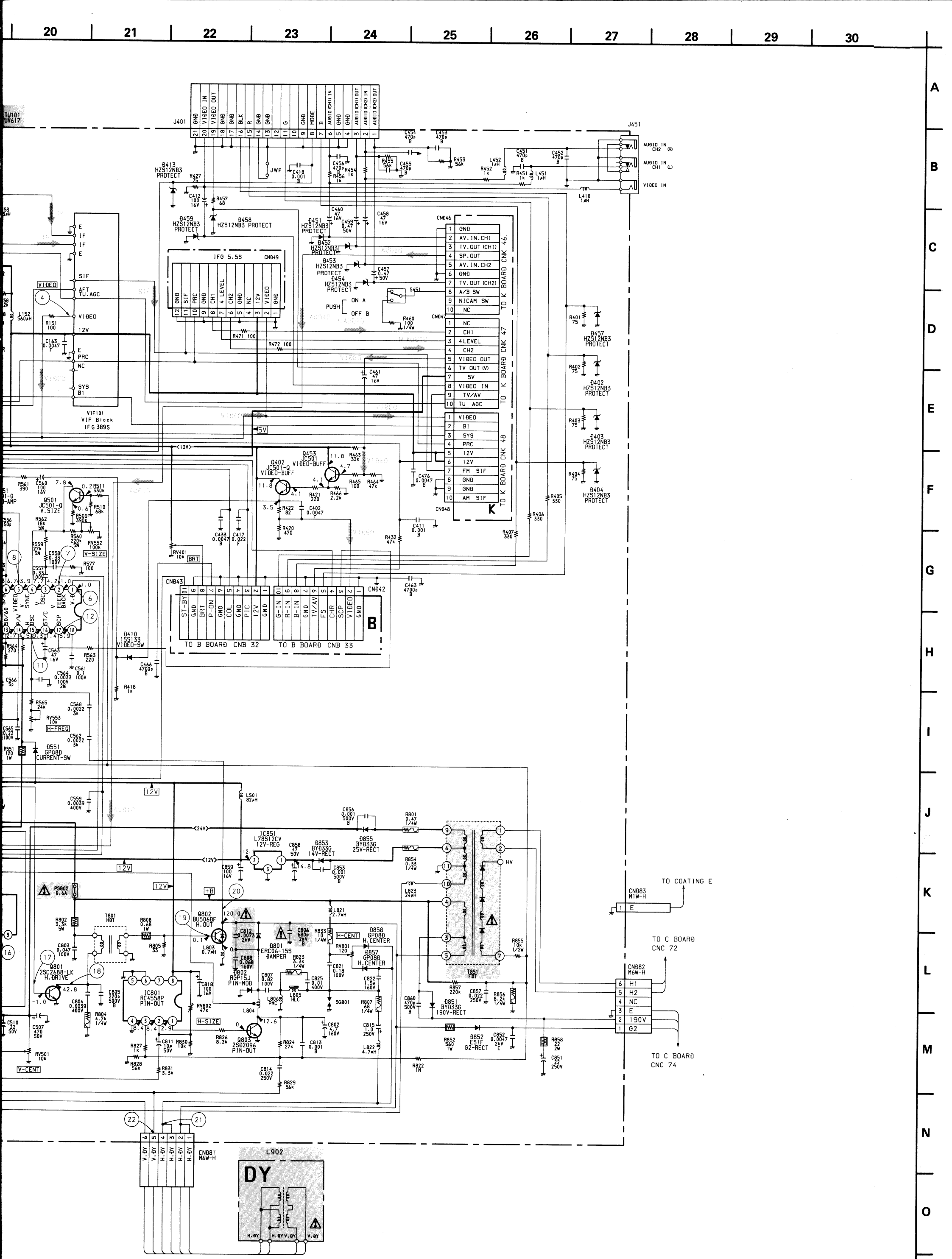
T603 LFT

T605

CF001

CN050 (GND, 7V)

TO W BOAEĐ CNĐ960


20
21
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A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P
TU101
UV617
J401
J451
VIF101
VIF Block
IFG 389S
IFG 5.5S
CN049
CN046
CN047
CN048
K
TO K BOARD CNK 46.
TO K BOARD CNK 47
TO K BOARD CNK 48
CN043
CN042
B
TO B BOARD CNB 32
TO B BOARD CNB 33
CN083
M1W-H
TO COATING E
CN082
M6W-H
TO C BOARD
CNC 72
TO C BOARD
CNC 74
CN081
M6W-H
L902
DY
Q501
JC501-Q
V.SIZE
Q402
JC501-Q
VIDEO-BUFF
Q453
JC501
VIDEO-BUFF
Q801
2SC2688-LK
H.DRIVE
Q802
BU506DF
H.OUT
Q803
2SD2096
PIN-OUT
IC801
RC4558P
PIN-OUT
IC851
L78S12CV
12V-REG
D801
ERC06-15S
DAMPER
D802
RGP15J
PIN-MOD
D851
BY233G
190V-RECT
D852
ESIF
G2-RECT
D853
BYD33G
14V-RECT
D855
BYD33G
25V-RECT
D858
GP08D
H.CENTER
D857
GP08D
H.CENTER
D551
GP08D
CURRENT-SW
D410
1SS133
VIDEO-SW
D457
HZS12NB3
PROTECT
D402
HZS12NB3
PROTECT
D403
HZS12NB3
PROTECT
D404
HZS12NB3
PROTECT
T801
HOT
T851
FBT
SG801
L805
HLC
L806
PNC
AUDIO IN CH2 (R)
AUDIO IN CH1 (L)
VIDEO IN
PUSH
ON A
OFF B
V-SIZE
H-FREQ
V-CENT
H-SIZE
BRT
H-CENT
5V
12V
24V
+B
HV
VIDEO
AUDIO
R-AUDIO
L-AUDIO
ST-BY
GND
BRT
P-ON
GND
COL
GND
PIC
12V
GND
G-IN
R-IN
B-IN
GND
TV/AV
FS
CHR
SCP
VIDEO
GND
V.DY
V.DY
H.DY
H.DY
H.DY
H.DY
H.DY
V.DY
GND
AV.IN.CH1
TV.OUT (CH1)
SP.OUT
AV.IN.CH2
GND
TV.OUT (CH2)
A/B SW
NICAM SW
NC
NC
CH1
4 LEVEL
CH2
VIDEO OUT
TV OUT (V)
5V
VIDEO IN
TV/AV
TU AGC
VIDEO
BI
SYS
PRC
12V
FM SIF
GND
GND
AM SIF
E
IF
IF
E
SIF
AFT
TU.AGC
VIDEO
12V
E
PRC
NC
SYS
BI
GND
VIDEO IN
CH1
CH2
4 LEVEL
GND
NC
12V
VIDEO
GND
H1
H2
NC
E
190V
G2
E

K (VIDEO SWITCH, BUFFER VIDEO / STEREO CONTROL, LED MISSION SELECT)

TO D BOARD CND48 — CNK48 10P GRY: AM SIF 10, GND 9, GND 8, FM SIF 7, 12V 6, 12V 5, PRC 4, SYS 3, BI 2, VIDEO 1

TO D BOARD CND47 — CNK47 10P GRY: TU AGC 10, TV/AV 9, VIDEO IN 8, 5V 7, TV OUT (V) 6, VIDEO OUT 4 5, CH2 4, 4 LEVEL 3, CH1 2, NC 1

TO D BOARD CND46 — CNK46 10P GRY: NC 10, FM/NICAM SW 9, A/B SW 8, AU OUT CH2 7, GND 6, AU IN CH2 5, SP OUT 4, AU OUT CH1 3, AU IN CH1 2, GND 1

TO LIGHT BLOCK: CH2, GND, CH1, GND

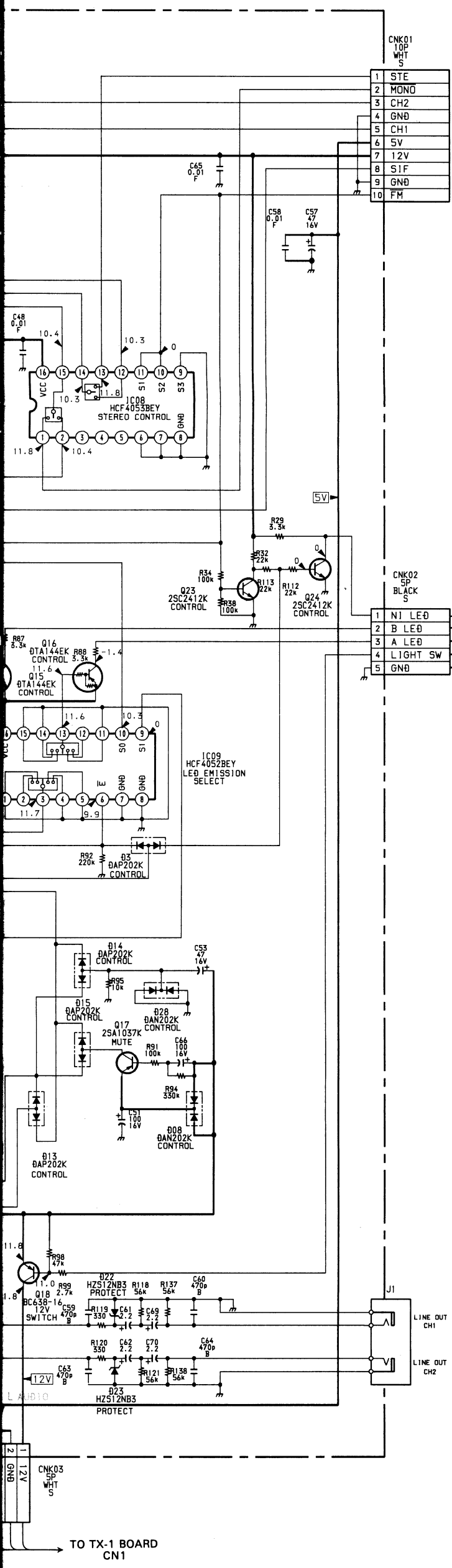
Q07 DTC144EK BUFFER; Q07 DAN202K CONTROL; Q04 DTC144EK BUFFER; D25 DAN202K CONTROL; IC05 RC4558P LEVEL 4 AMP; IC06 HCF4052BEY INPUT SELECT

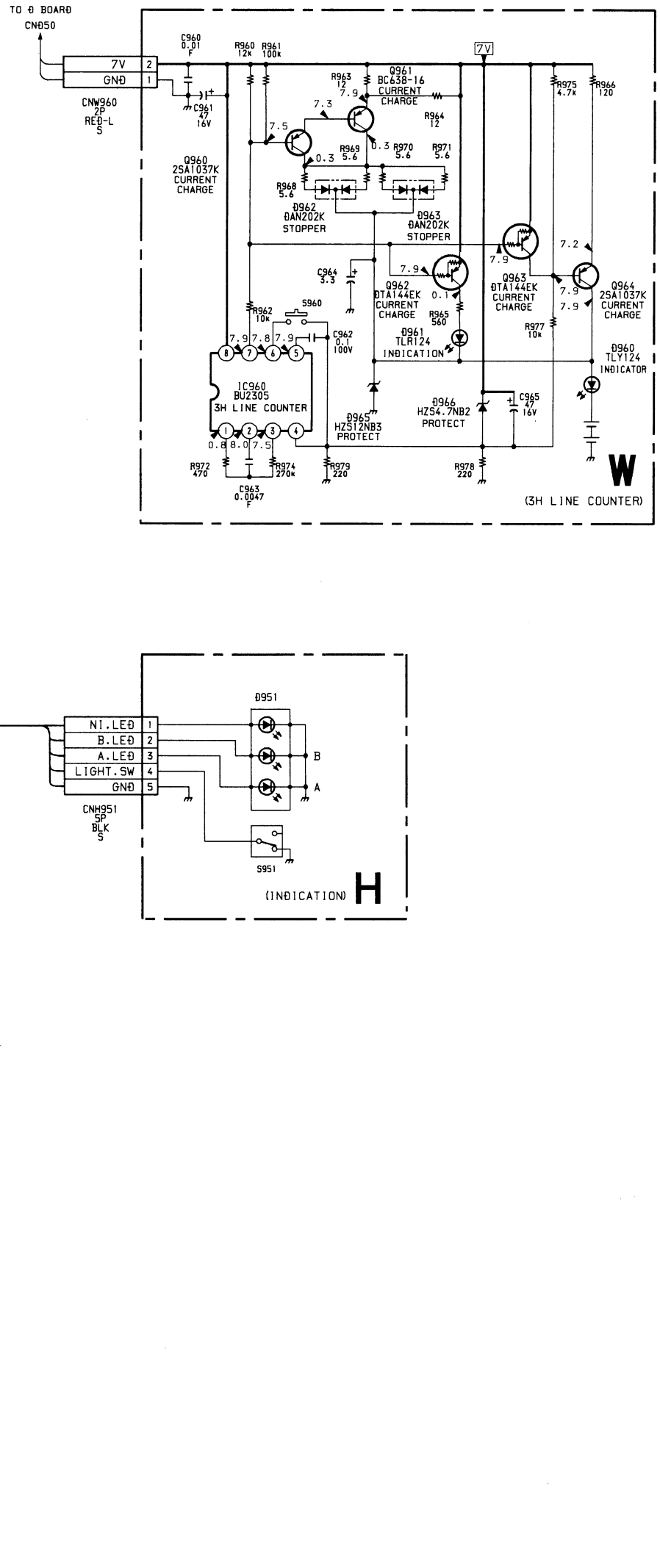
Q08 2SC2412K BUFFER; Q40 DTC144EK TV/AV SWITCH; IC03 CX20061 VIDEO SWITCH; Q13 2SC2412K BUFFER; Q10 2SA1037K BUFFER; Q09 2SC2412K BUFFER; Q11 2SC2412K BUFFER; IC04 TEA2014A VIDEO SIGNAL SEPARATION

D05 DAN202K CONTROL; D29 DAN202K CONTROL; D30 DAN202K CONTROL; D18 DAP202K CONTROL; D24 DAN202K CONTROL; D04 DAN202K CONTROL; Q29 DTC144EK CONTROL; Q30 2SC2412K CONTROL; Q31 DTC144EK CONTROL; IC07 HCF4052BEY OUTPUT SELECT

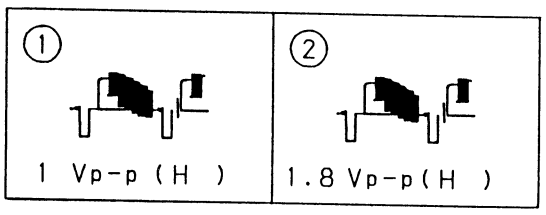
Q38 DTA144EK CONTROL; Q39 DTC144EK CONTROL; Q36 2SC2412K AUDIO AMP; Q37 2SC2412K AUDIO AMP; Q35 2SC2412K AUDIO AMP; Q34 2SC2412K AUDIO AMP; D26 DAP202K CONTROL; Q22 2SC2412K BUFFER; Q21 2SC2412K BUFFER; Q27 2SA1037K AUDIO SWITCH; Q32 2SC2412K AUDIO AMP; Q33 2SC2412K AUDIO AMP; Q19 2SC2412K BUFFER; Q20 2SC2412K BUFFER; D27 DAP202K CONTROL

12V; 5V; VIDEO; R AUDIO; L AUDIO



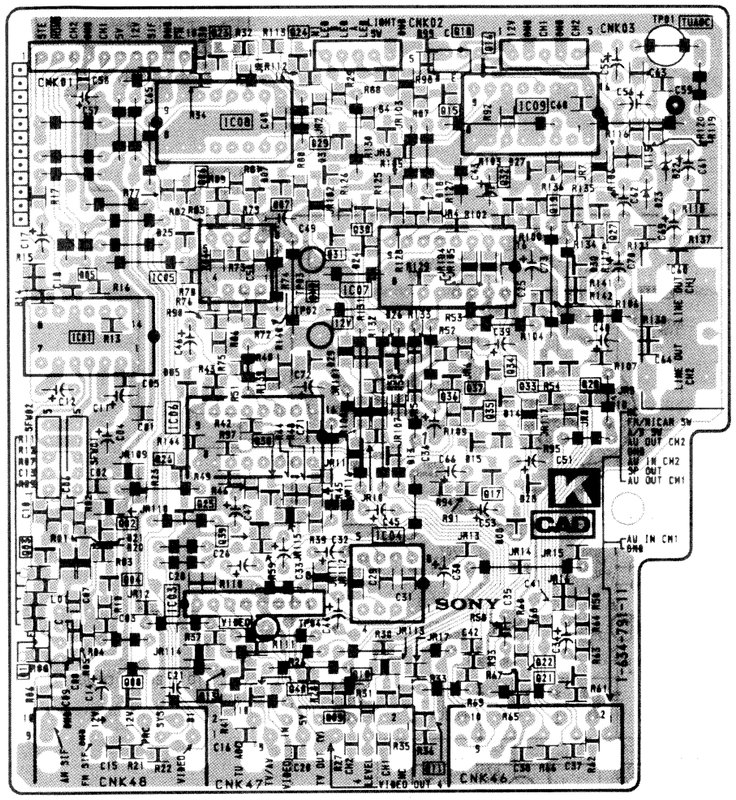


K BOARD WAVEFORMS

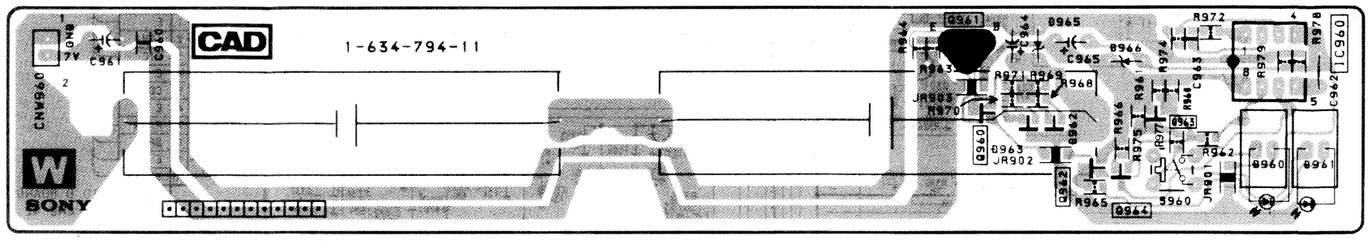


[VIDEO SWITCH, BUFFER VIDEO CONTROL STEREO, LED EMISSION SELECT] **K** **W** [3H LINE COUNTER] **H** [INDICATION]

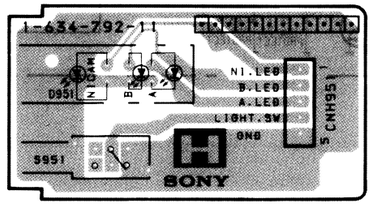
– K Board –

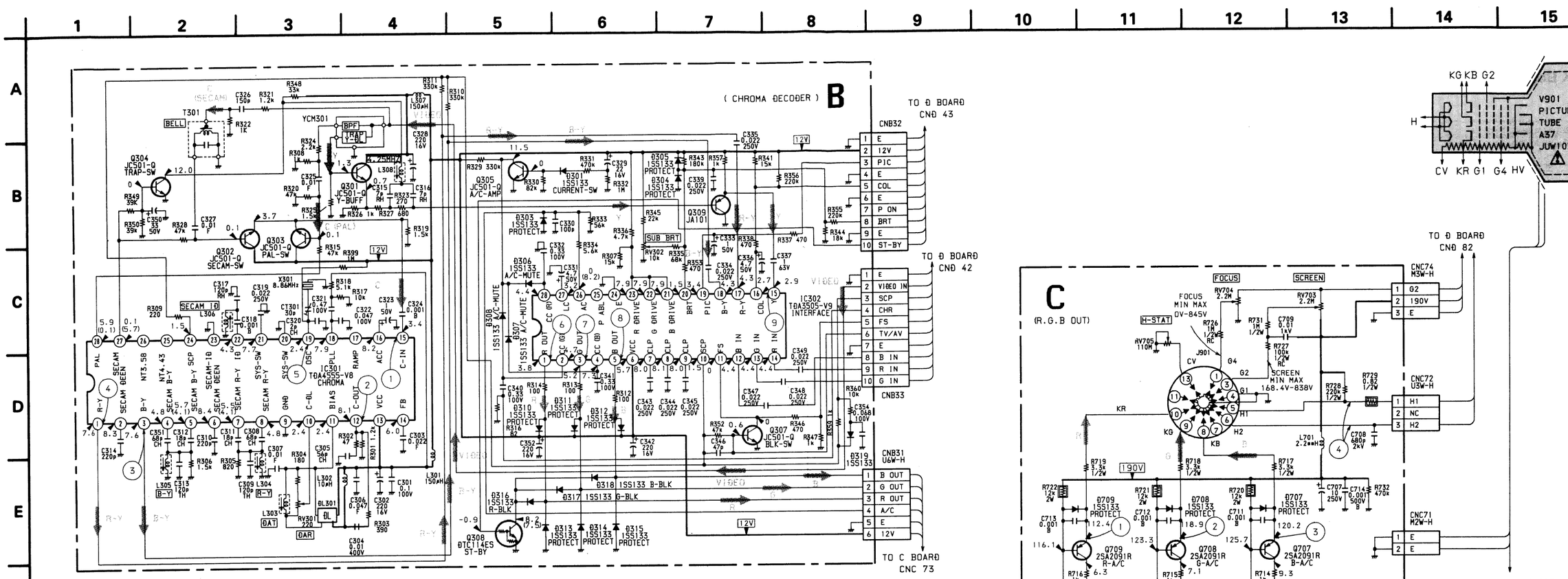


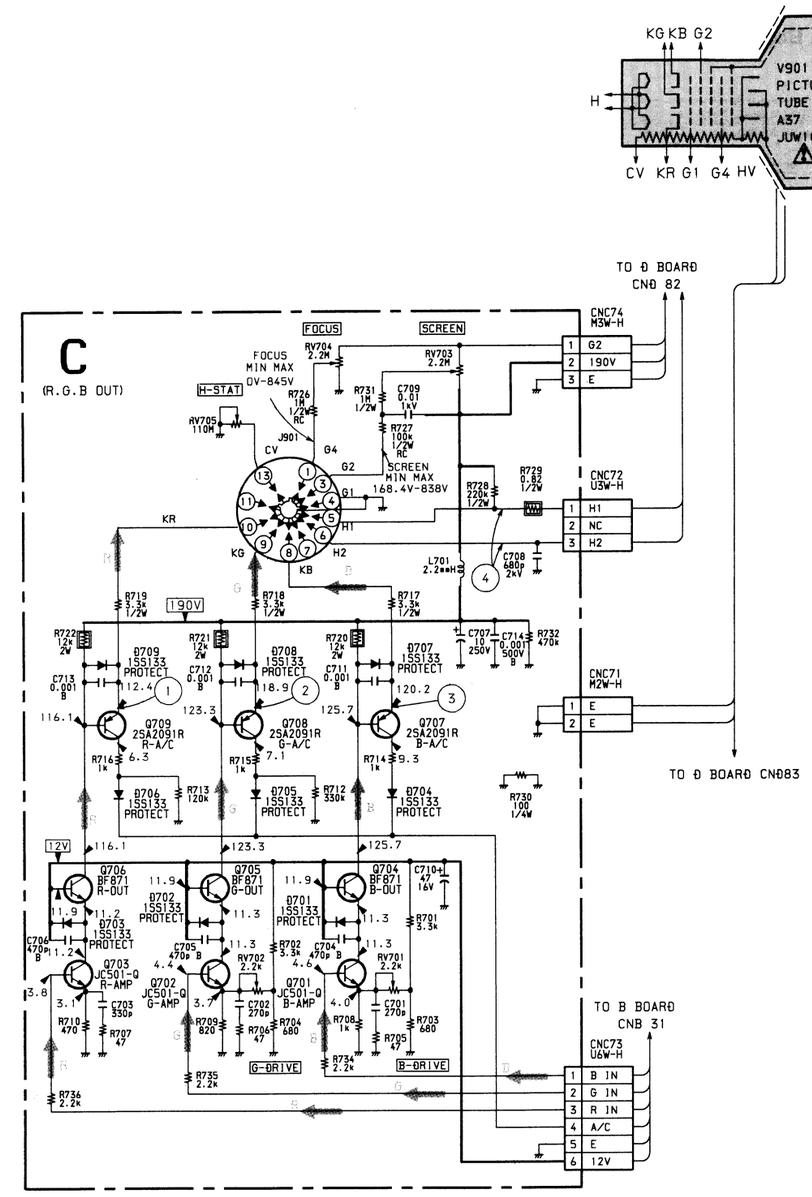
– W Board –



– H Board –







B BOARD WAVEFORMS

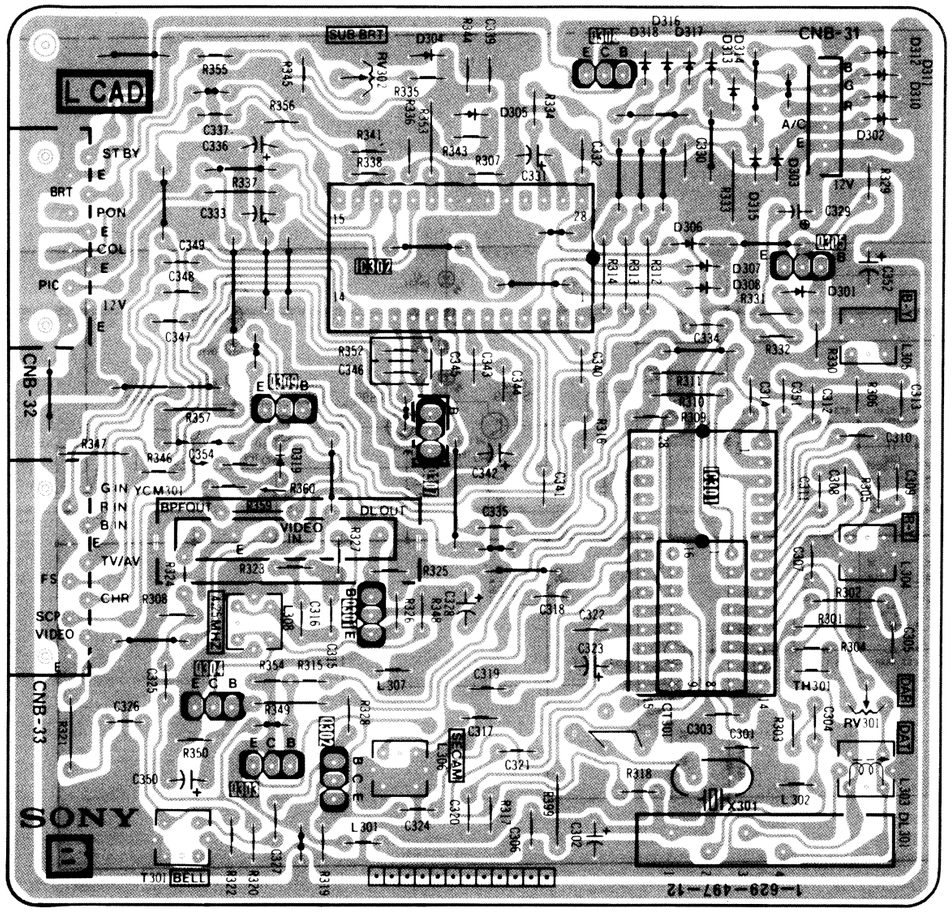
① 0.6 Vp-p (H)	② 1.5 Vp-p (H)	③ 1.3 Vp-p (H)
④ 1.1 Vp-p (H)	⑤ 0.8 Vp-p (8.86MHz)	⑥ 2.2 Vp-p (H)
⑦ 2.2 Vp-p (H)	⑧ 2.2 Vp-p (H)	⑨ 0.4 Vp-p (H)

C BOARD WAVEFORMS

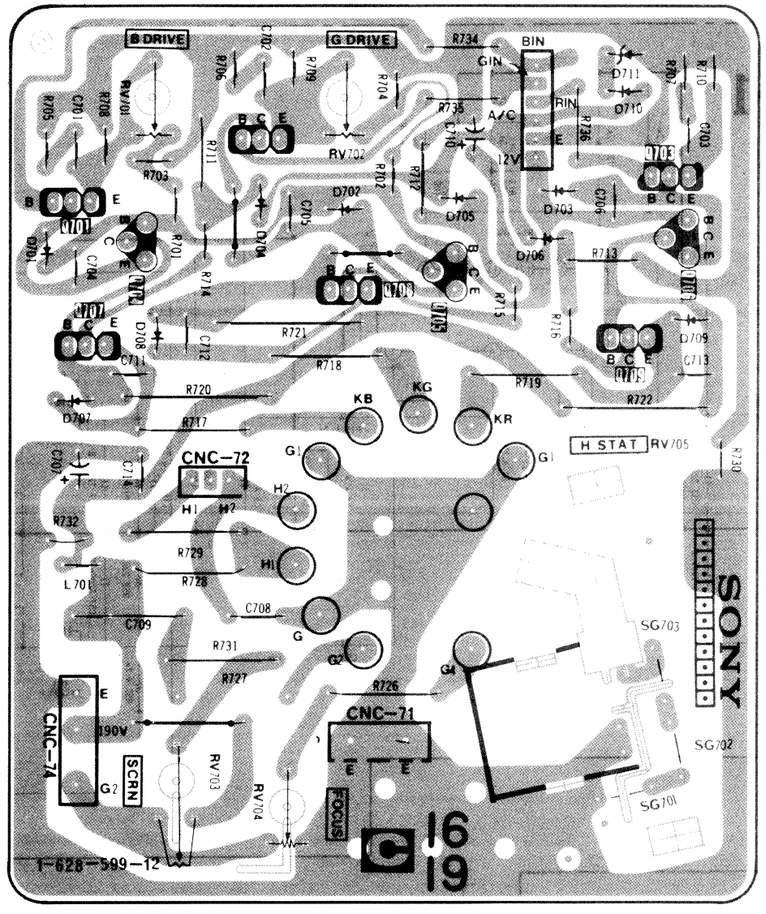
① 50 Vp-p (H)	② 48 Vp-p (H)	③ 44 Vp-p (H)	④ 22 Vp-p (H)

[CHROMA DECODER] B C [R. G. B OUT]

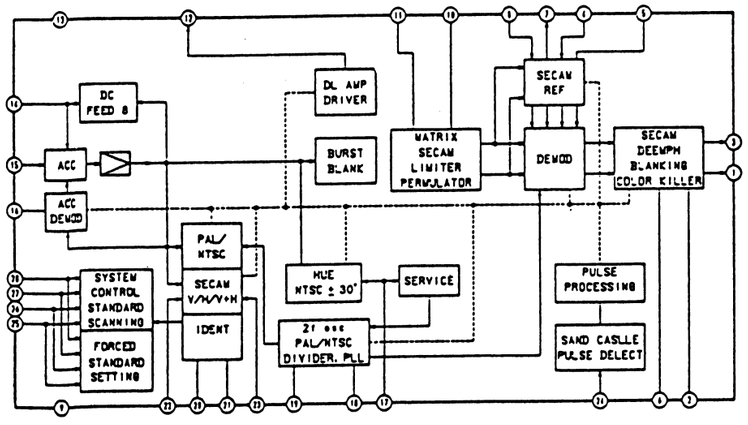
– B Board –



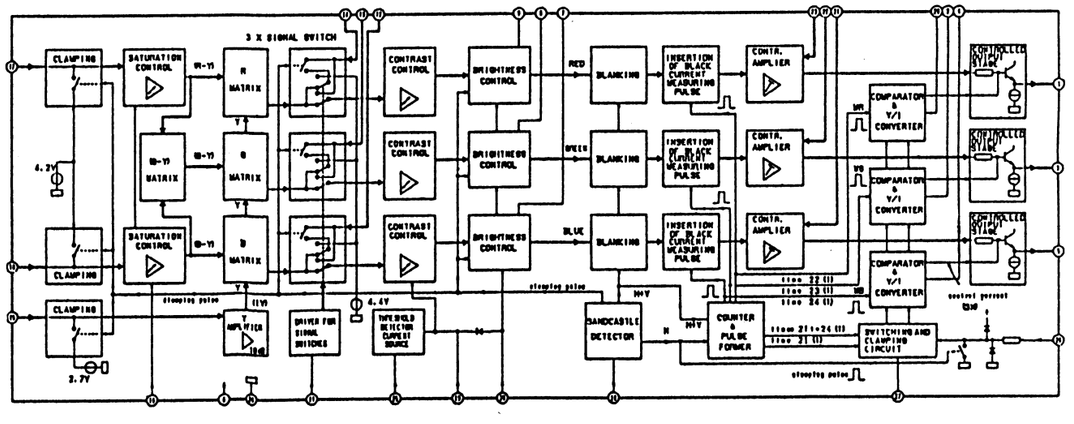
– C Board –



B BOARD IC301 TDA4555-V8



B BOARD IC302 TDA3505-V9



TX-1

Lch

TO K BOARD CNK 03

CN 1: CH 2 (5), GND (4), CH 1 (3), GND (2), 12V (1)

IC1 BA3308F

Q11 2SC2714Y

Q12 2SC2714Y

Q13 2SA1162Y

Q51 2SC2714Y

Q52 2SC2714Y

Q53 2SA1162Y

D11 SVC203CP

D51 SVC203CP

B1 GN304 B2 GN304 B3 GN304 B4 GN304

B5 GN304 B6 GN304 B7 GN304 B8 GN304

Q14 2SD999 Q54 2SD999 Q55 2SD999 Q15 2SD999

L11 (2.3uH20SCC01L) L51 (2.8uH20SCC01L)

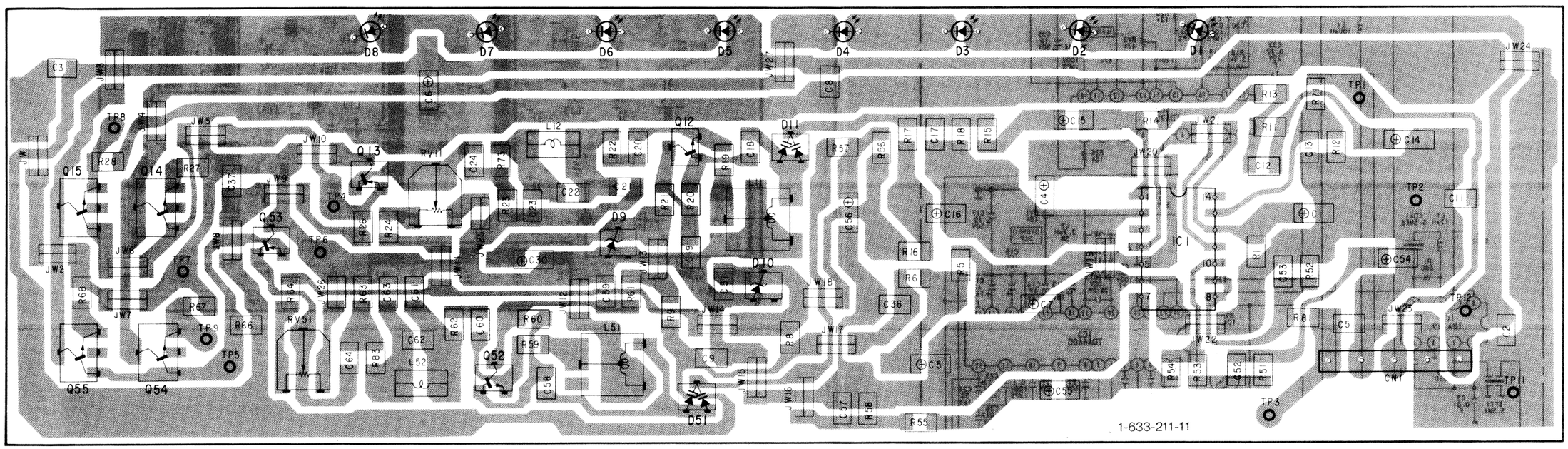
12V

F.GND

Rch

TX-1

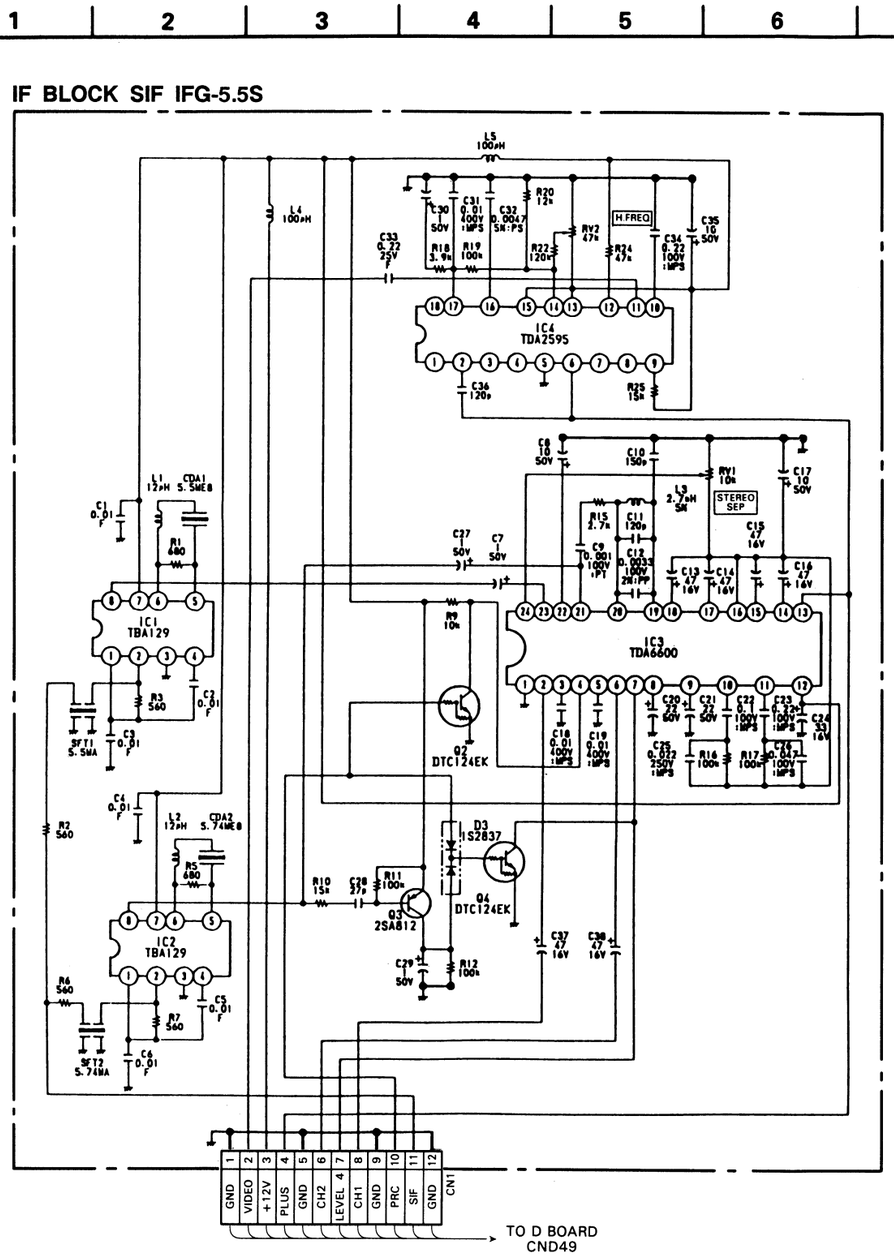
– TX-1 Board –



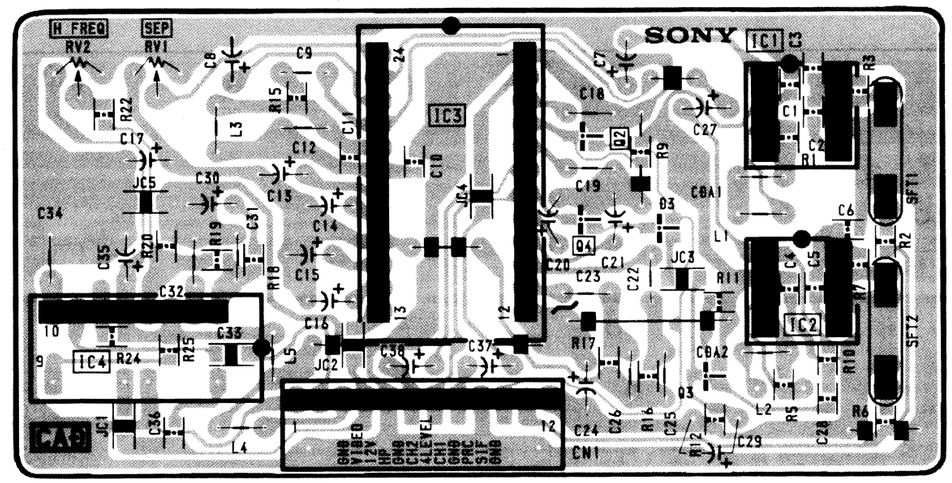
KV-H1610D MDR-IF510/RM-658

SIF

IF BLOCK SIF IFG-5.5S

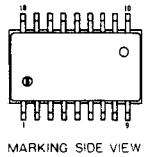


— SIF Board —

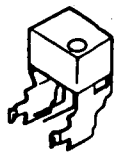


5-3. SEMICONDUCTORS

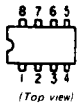
BU3780F



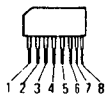
BX-1398
KEY-COOSV



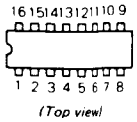
BA4558
BU2305
CXK1012P
RC4558P
TBA129
TEA2014A
μ PC4558C



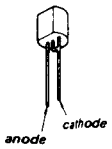
CX20061



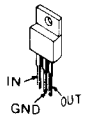
HCF4052BEY
HCF4053BEY
HD14052BP
HD14053BP
MC14053BCP
TC4053BP
TDA4510-V6
TDA3505-V9
TDA4555-V8



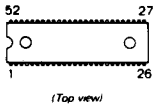
HZT33-02
μ PC574J



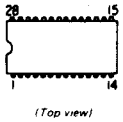
L78M05CX
L78M12CV



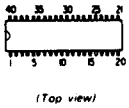
M50436-616SP
M50436-618SP



SAA5231-V6
TDA3505-V9
μ PD4364CX-15L

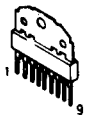


SAA5243E

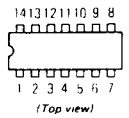


STR54041

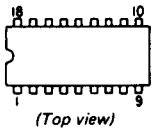
TDA1013A-N4



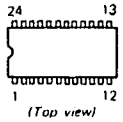
TDA2148



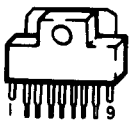
TDA2545A
TDA2579A-N8
TDA2595-V7
TDA4439



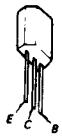
TDA6600-2



μ PC1488H

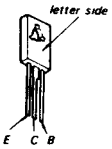


BC637-16

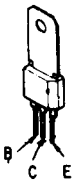


BF199
BF871
2SA733-K

BF421
2SC2688-LK

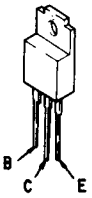


BF819



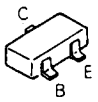
BF959

BU506DF

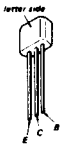


DTA114ES
DTA124ES
DTC114ES
DTC124ES
DTC143TS
DTC144ES

DTA124EK
DTA144EK
DTC124EK
DTC143TK
DTC144EK
2SA1037K
2SA812
2SC2412K-QR
2SC1623



JA101-Q
JC501-Q



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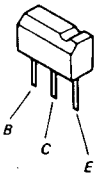
2SC2060

2SA881-Q



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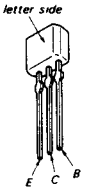
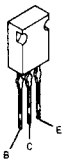
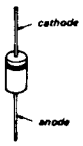


2SD1761-F

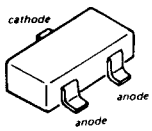
2SD2096-EF



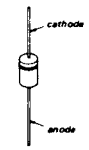
BYT33G
BYT51D
BYT52G
EGP20G
ERA81-005
ES1F
GP08D
RD3.9ES-B1
RD6.8ES-B1
RGP01-17
RGP02
RGP10G
RGP15J



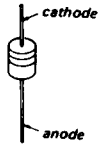
DAN202K
1S2837



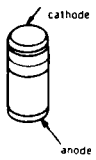
ERC06-15S
R2M



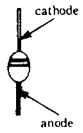
HTZJ-12C
HZS12NB3
HZS3.6NB2
HZS3.9NB1
HZS4.7N-B2
HZS5.6NB1
HZS6.8NB1
HZS9.1NB1
HZS9.1NB3
1SS133
1SS148



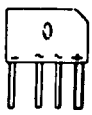
RLS135E



U05G



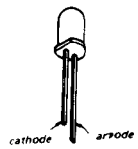
KBU4JL-6088



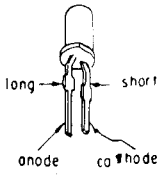
MC921

MC931

CQS51L-4
CQY24BL-4



TLR124
GL3HY8



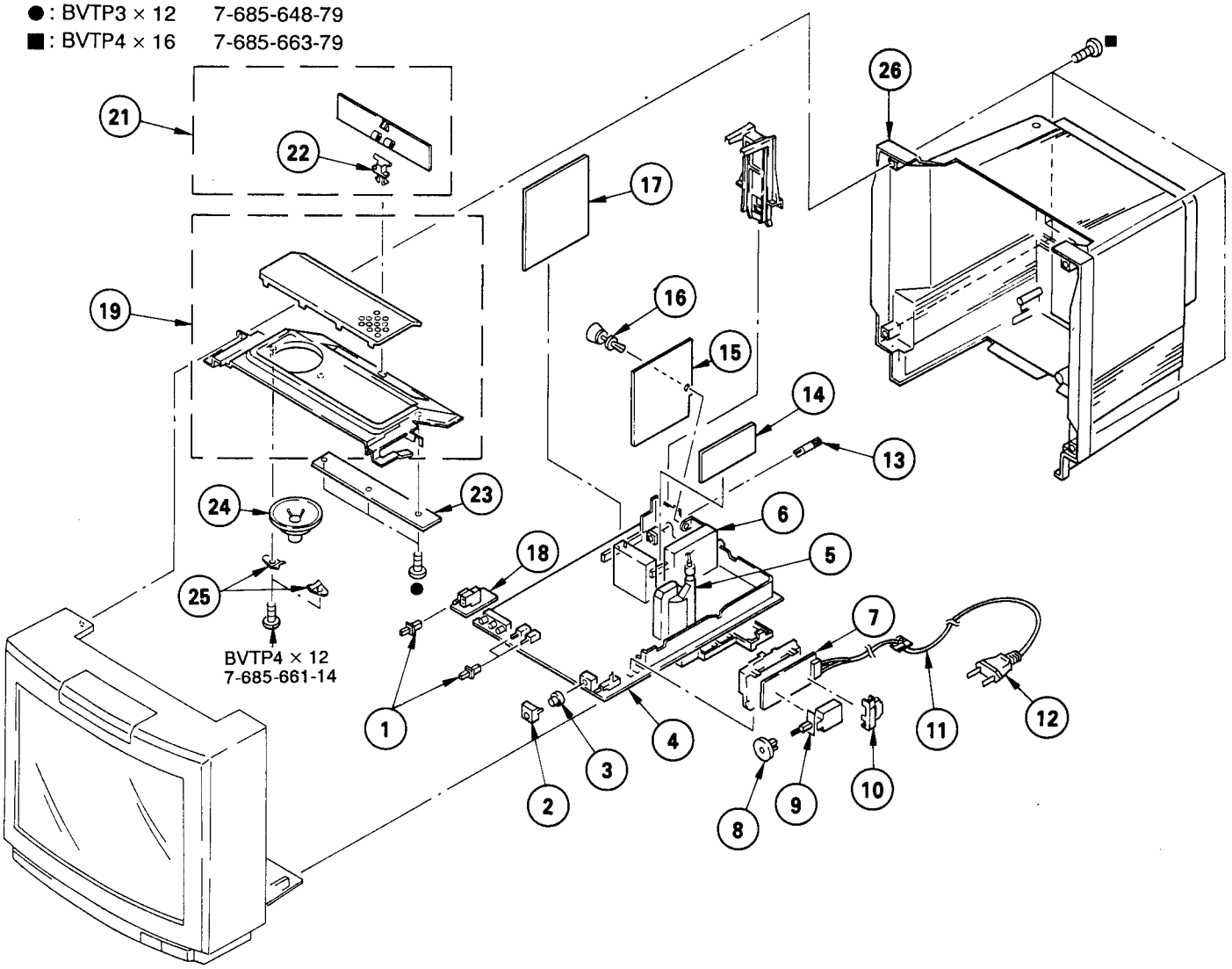
SECTION 6
EXPLODED VIEWS

NOTE:
- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked " ★ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

6-1. CHASSIS

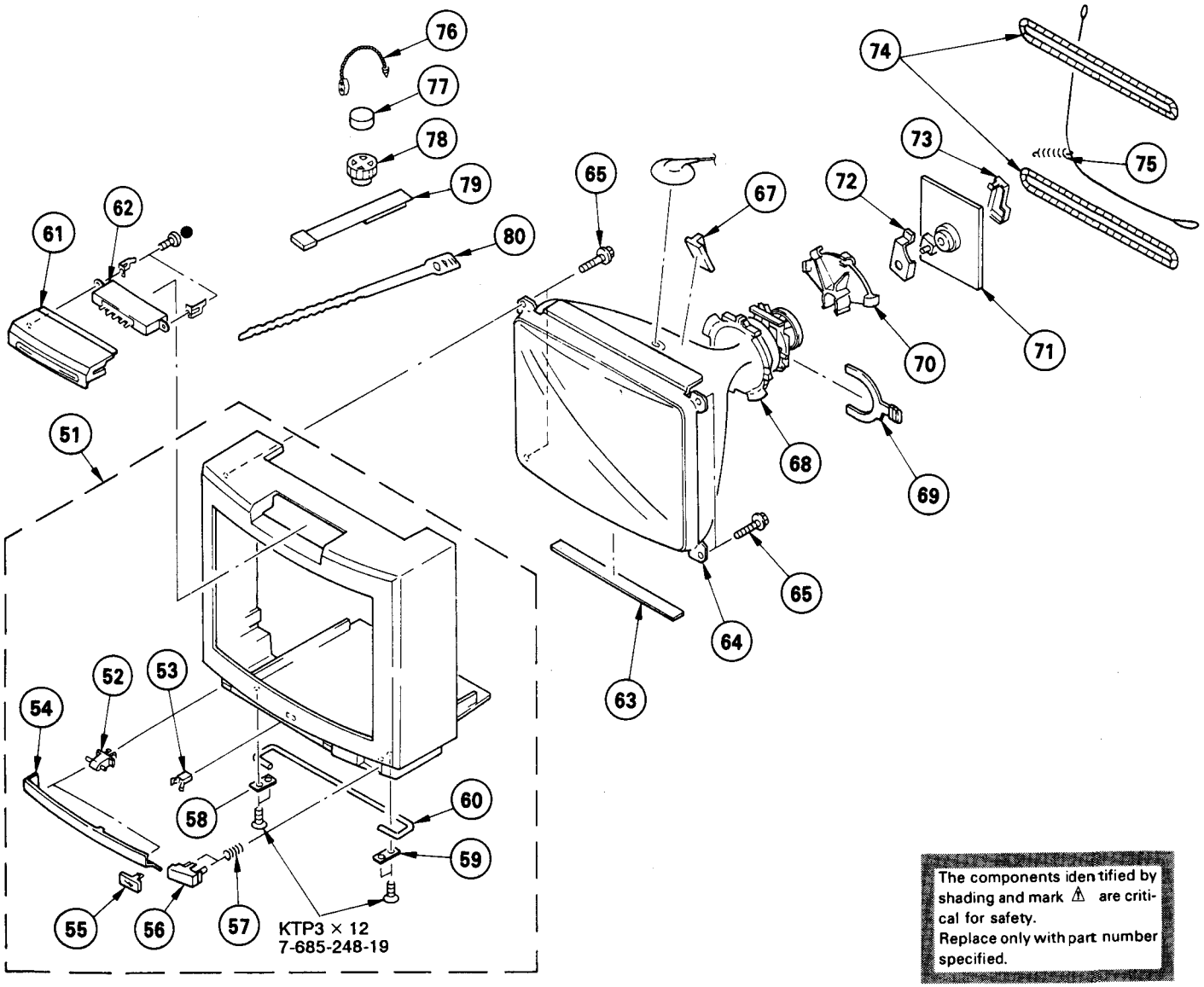
●: BVTP3 × 12 7-685-648-79
■: BVTP4 × 16 7-685-663-79



REF.NO.	PART NO.	DESCRIPTION	REMARK
1	4-394-047-01	BUTTON, SELECTION	
2	*4-381-686-01	BRACKET (B), LIGHT GUIDE	
3	*4-374-987-01	GUIDE, LIGHT	
4	*A-1345-917-A	D BOARD, COMPLETE	
5 ⚠	1-439-432-11	TRANSFORMER ASSY, FLYBACK (UX-1620)	
6 ⚠	1-463-881-11	TUNER, ET (UV-617)	
7	*1-628-600-11	F BOARD	
8	4-386-611-11	COVER, SWITCH	
9 ⚠	1-571-433-11	SWITCH, PUSH (AC POWER)	
10	*4-386-620-11	COVER, POWER	
11 ⚠	4-389-778-01	HOLDER, AC CORD	
12 ⚠	1-590-129-11	CORD, POWER (WITH CONNECTOR)	
13	4-389-302-01	KNOB, VOLUME	
14	1-464-964-21	SIF BOARD (IF BLOCK IFG-5.5S)	
15	*A-1380-301-A	K BOARD, COMPLETE	
16	4-386-618-01	RIVET, T TYPE	
17	*A-1135-627-A	B BOARD, COMPLETE	
18	*1-634-792-11	H BOARD	
19	X-4029-036-1	PLATE ASSY, TOP	
21	X-4389-330-1	DOOR ASSY, CHARGER	22
22	3-703-035-11	SHAFT, LID	
23	*A-1371-646-A	W BOARD, COMPLETE	
24	1-503-344-21	SPEAKER (8CM CONE TYPE)	
25	*4-338-106-00	HOLDER, SPEAKER	
26	X-4389-332-1	COVER ASSY, REAR	

6-2. PICTURE TUBE

● : BVTP3 × 12 7-685-648-79



The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION	REMARK
51	X-4389-331-2	CABINET ASSY (WITH BEZEL ASSY)	52-60
52	3-703-035-11	SHAFT, LID	
53	4-392-036-01	CATCHER, PUSH	
54	4-399-216-11	DOOR	
55	4-399-201-01	WINDOW, ORNAMENTAL	
56	4-399-212-01	BUTTON, POWER	
57	4-329-112-31	SPRING	
58	4-376-114-01	HOLDER (RIGHT), STAND	
59	4-376-113-01	HOLDER (LEFT), STAND	
60	4-391-497-01	STAND	
61	X-4389-329-1	BRACKET ASSY, CIT	
62	*A-4503-735-A	TX-1 BOARD, COMPLETE	
63	4-391-450-01	CUSHION, PICTURE TUBE	
64 ⚠	.8-738-852-05	PICTURE TUBE (A37JUW10X)	
65	4-382-733-01	SCREW (S), PT	
67	3-704-495-01	SPACER, DY	
68 ⚠	.1-451-304-21	DEFLECTION YOKE (Y16SXA)	
69	1-452-277-00	MAGNET, BMC	
70	*4-385-422-01	HOLDER, LEAD	
71	*A-1331-108-A	C BOARD, COMPLETE	
72	*4-374-717-01	COVER (MAIN), CV VOL	
73	*4-374-704-01	COVER (REAR LID), CV VOL	
74 ⚠	.1-426-317-21	COIL, DEGAUSSING	
75	4-369-318-00	SPRING, TENSION	
76	4-308-870-00	CLIP, LEAD WIRE	
77	1-452-032-00	MAGNET, DISK; 10MM ϕ	
78	1-452-094-00	MAGNET, ROTATABLE DISK; 15MM ϕ	
79	X-4309-608-0	PERMALLOY ASSY, CONVERGENCE	
80	3-701-007-00	BAND, BINDING	

B

SECTION 7
ELECTRICAL PARTS LIST

NOTE:

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

When indicating parts by reference number, please include the board name.

CAPACITORS
• MF : μF, PF : μμF

COILS
• MMH : mH, UH : μH

RESISTORS
• All resistors are in ohms
• F : nonflammable

REF.NO.	PART NO.	DESCRIPTION			REMARK
	*A-1135-627-A	B BOARD, COMPLETE			
		**********			
		<CAPACITOR>			
C301	1-106-220-00	MYLAR	0.1MF	10%	100V
C302	1-124-120-11	ELECT	220MF	20%	16V
C303	1-101-005-00	CERAMIC	0.022MF		50V
C304	1-106-367-00	MYLAR	0.01MF	10%	400V
C305	1-101-884-00	CERAMIC	56PF	5%	50V
C306	1-101-006-00	CERAMIC	0.047MF		50V
C307	1-101-004-00	CERAMIC	0.01MF		50V
C308	1-101-888-00	CERAMIC	68PF	5%	50V
C309	1-102-816-00	CERAMIC	120PF	5%	50V
C310	1-102-978-00	CERAMIC	220PF	5%	50V
C311	1-102-953-00	CERAMIC	18PF	5%	50V
C312	1-102-953-00	CERAMIC	18PF	5%	50V
C313	1-102-816-00	CERAMIC	120PF	5%	50V
C314	1-102-978-00	CERAMIC	220PF	5%	50V
C315	1-102-944-00	CERAMIC	7PF	0.5PF	50V
C316	1-102-944-00	CERAMIC	7PF	0.5PF	50V
C317	1-102-816-00	CERAMIC	120PF	5%	50V
C318	1-102-074-00	CERAMIC	0.001MF	10%	50V
C319	1-106-375-12	MYLAR	0.022MF	10%	250V
C320	1-102-935-00	CERAMIC	2PF	0.25PF	50V
C321	1-130-785-11	MYLAR	0.47MF	10%	100V
C322	1-106-383-00	MYLAR	0.047MF	10%	100V
C323	1-124-791-11	ELECT	1MF	20%	50V
C324	1-102-074-00	CERAMIC	0.001MF	10%	50V
C325	1-101-004-00	CERAMIC	0.01MF		50V
C326	1-101-361-00	CERAMIC	150PF	5%	50V
C327	1-101-004-00	CERAMIC	0.01MF		50V
C328	1-124-120-11	ELECT	220MF	20%	16V
C329	1-131-367-00	TANTALUM	22MF	10%	16V
C330	1-102-973-00	CERAMIC	100PF	5%	50V
C331	1-124-927-11	ELECT	4.7MF	20%	50V
C332	1-130-783-00	MYLAR	0.33MF	10%	100V
C333	1-124-791-11	ELECT	1MF	20%	50V
C334	1-106-375-12	MYLAR	0.022MF	10%	250V
C335	1-106-375-12	MYLAR	0.022MF	10%	250V
C336	1-124-927-11	ELECT	4.7MF	20%	50V
C337	1-130-834-00	MYLAR	1MF	10%	63V
C339	1-106-375-12	MYLAR	0.022MF	10%	250V
C340	1-130-783-00	MYLAR	0.33MF	10%	100V
C341	1-130-783-00	MYLAR	0.33MF	10%	100V
C342	1-124-120-11	ELECT	220MF	20%	16V
C343	1-106-375-12	MYLAR	0.022MF	10%	250V
C344	1-106-375-12	MYLAR	0.022MF	10%	250V
C345	1-106-375-12	MYLAR	0.022MF	10%	250V
C346	1-101-880-00	CERAMIC	47PF	5%	50V
C347	1-106-375-12	MYLAR	0.022MF	10%	250V
C348	1-106-375-12	MYLAR	0.022MF	10%	250V
C349	1-106-375-12	MYLAR	0.022MF	10%	250V
C350	1-124-917-11	ELECT	33MF	20%	50V
C351	1-101-888-00	CERAMIC	68PF	5%	50V
C352	1-124-120-11	ELECT	220MF	20%	16V
C354	1-106-216-00	MYLAR	0.068MF	10%	100V
		<CONNECTOR>			
CNB31	*1-560-126-00	PLUG, CONNECTOR (2.5MM) 6P			
CNB32	*1-565-393-11	CONNECTOR, BOARD TO BOARD			
CNB33	*1-565-393-11	CONNECTOR, BOARD TO BOARD			
		<TRIMMER>			
CT301	1-141-392-11	CAP, VAR, TRIMMER (1 GANG)			
		<DIODE>			
D301	8-719-911-19	DIODE 1SS119			
D303	8-719-911-19	DIODE 1SS119			
D304	8-719-911-19	DIODE 1SS119			
D305	8-719-911-19	DIODE 1SS119			
D306	8-719-911-19	DIODE 1SS119			
D307	8-719-911-19	DIODE 1SS119			
D308	8-719-911-19	DIODE 1SS119			
D310	8-719-911-19	DIODE 1SS119			
D311	8-719-911-19	DIODE 1SS119			
D312	8-719-911-19	DIODE 1SS119			
D313	8-719-911-19	DIODE 1SS119			
D314	8-719-911-19	DIODE 1SS119			
D315	8-719-911-19	DIODE 1SS119			
D316	8-719-911-19	DIODE 1SS119			
D317	8-719-911-19	DIODE 1SS119			
D318	8-719-911-19	DIODE 1SS119			
D319	8-719-911-19	DIODE 1SS119			
		<DELAY LINE>			
DL301	1-415-122-31	DELAY LINE			
		<IC>			
IC301	8-759-947-20	IC TDA4555-V8			
IC302	8-759-947-19	IC TDA3505-V9			
		<COIL>			
L301	1-408-423-00	INDUCTOR	150UH		
L302	1-408-409-00	INDUCTOR	10UH		
L303	1-404-539-11	COIL			

B F C

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION		REMARK
L304	1-404-554-11	COIL		
L305	1-404-554-11	COIL		
L306	1-404-554-11	COIL		
L307	1-408-423-00	INDUCTOR	150UH	
L308	1-404-495-00	COIL		
		<TRANSISTOR>		
Q301	8-729-119-78	TRANSISTOR 2SC2785-HFE		
Q302	8-729-119-78	TRANSISTOR 2SC2785-HFE		
Q303	8-729-119-78	TRANSISTOR 2SC2785-HFE		
Q304	8-729-119-78	TRANSISTOR 2SC2785-HFE		
Q305	8-729-119-78	TRANSISTOR 2SC2785-HFE		
Q307	8-729-119-78	TRANSISTOR 2SC2785-HFE		
Q308	8-729-900-80	TRANSISTOR DTC114ES		
Q309	8-729-173-38	TRANSISTOR 2SA733-K		
		<RESISTOR>		
R301	1-249-418-11	CARBON	1.2K 5% 1/4W	
R302	1-249-401-11	CARBON	47 5% 1/4W	
R303	1-249-412-11	CARBON	390 5% 1/4W	
R304	1-249-408-11	CARBON	180 5% 1/4W	
R305	1-249-416-11	CARBON	820 5% 1/4W	
R306	1-249-419-11	CARBON	1.5K 5% 1/4W	
R307	1-249-431-11	CARBON	15K 5% 1/4W	
R308	1-249-417-11	CARBON	1K 5% 1/4W	
R309	1-249-409-11	CARBON	220 5% 1/4W	
R310	1-247-891-00	CARBON	330K 5% 1/4W	
R311	1-247-891-00	CARBON	330K 5% 1/4W	
R312	1-249-405-11	CARBON	100 5% 1/4W	
R313	1-249-405-11	CARBON	100 5% 1/4W	
R314	1-249-405-11	CARBON	100 5% 1/4W	
R315	1-249-437-11	CARBON	47K 5% 1/4W	
R316	1-249-404-00	CARBON	82 5% 1/4W	
R317	1-249-429-11	CARBON	10K 5% 1/4W	
R318	1-247-848-11	CARBON	5.1K 5% 1/4W	
R319	1-249-419-11	CARBON	1.5K 5% 1/4W	
R320	1-249-437-11	CARBON	47K 5% 1/4W	
R321	1-249-418-11	CARBON	1.2K 5% 1/4W	
R322	1-249-417-11	CARBON	1K 5% 1/4W	
R323	1-249-410-11	CARBON	270 5% 1/4W	
R324	1-249-421-11	CARBON	2.2K 5% 1/4W	
R325	1-249-419-11	CARBON	1.5K 5% 1/4W	
R326	1-249-417-11	CARBON	1K 5% 1/4W	
R327	1-249-415-11	CARBON	680 5% 1/4W	
R328	1-249-437-11	CARBON	47K 5% 1/4W	
R329	1-247-891-00	CARBON	330K 5% 1/4W	
R330	1-249-440-11	CARBON	82K 5% 1/4W	
R331	1-247-895-00	CARBON	470K 5% 1/4W	
R332	1-247-903-00	CARBON	1M 5% 1/4W	
R333	1-214-907-00	METAL	56K 1% W	
R334	1-249-426-11	CARBON	5.6K 5% 1/4W	
R335	1-249-439-11	CARBON	68K 5% 1/4W	
R336	1-249-425-11	CARBON	4.7K 5% 1/4W	
R337	1-249-413-11	CARBON	470 5% 1/4W	
R338	1-249-413-11	CARBON	470 5% 1/4W	
R341	1-249-431-11	CARBON	15K 5% 1/4W	
R343	1-247-885-00	CARBON	180K 5% 1/4W	
R344	1-249-432-11	CARBON	18K 5% 1/4W	
R345	1-249-433-11	CARBON	22K 5% 1/4W	
R346	1-249-413-11	CARBON	470 5% 1/4W	
R347	1-249-417-11	CARBON	1K 5% 1/4W	
R348	1-249-435-11	CARBON	33K 5% 1/4W	
R349	1-249-436-11	CARBON	39K 5% 1/4W	
R350	1-249-436-11	CARBON	39K 5% 1/4W	
R352	1-249-437-11	CARBON	47K 5% 1/4W	
R353	1-249-413-11	CARBON	470 5% 1/4W	
R355	1-247-887-00	CARBON	220K 5% 1/4W	
R356	1-247-887-00	CARBON	220K 5% 1/4W	
R357	1-249-417-11	CARBON	1K 5% 1/4W	
R359	1-249-417-11	CARBON	1K 5% 1/4W	
R360	1-249-429-11	CARBON	10K 5% 1/4W	
R399	1-247-903-00	CARBON	1M 5% 1/4W	
		<VARIABLE RESISTOR>		
RV301	1-238-009-11	RES, ADJ, CARBON 220		
RV302	1-238-016-11	RES, ADJ, CARBON 10K		
		<TRANSFORMER>		
T301	1-404-584-11	COIL		
		<CRYSTAL>		
X301	1-567-131-00	OSCILLATOR, CRYSTAL		
		<MODULE>		
YCM301	1-235-753-21	YC MODULE		
		**********		
	*1-628-600-11	F BOARD		
		*******		
		<CONNECTOR>		
CNF61	*1-566-664-11	PIN, CONNECTOR 4P		
CNF62	*1-566-664-11	PIN, CONNECTOR 4P		
		<FUSE>		
F601⚠	1-576-016-11	FUSE, GLASS-TUBE (TIME-LAG) 3.15A/250V		
	1-533-087-00	HOLDER, FUSE; F601		
		<SWITCH>		
S601⚠	1-571-433-11	SWITCH, PUSH (AC POWER)		
		**********		
	*A-1331-108-A	C BOARD, COMPLETE		
		**********		
	*4-374-704-01	COVER (REAR LID), CV VOL		
	*4-374-717-01	COVER (MAIN), CV VOL		
		<CAPACITOR>		
C701	1-102-980-00	CERAMIC	270PF 5% 50V	
C702	1-102-980-00	CERAMIC	270PF 5% 50V	
C703	1-102-820-00	CERAMIC	330PF 5% 50V	
C704	1-102-114-00	CERAMIC	470PF 10% 50V	
C705	1-102-114-00	CERAMIC	470PF 10% 50V	
C706	1-102-114-00	CERAMIC	470PF 10% 50V	
C707	1-123-947-00	ELECT	10MF 20% 250V	
C708	1-162-116-00	CERAMIC	680PF 10% 2KV	
C709	1-136-666-11	FILM	0.01MF 5% 1KV	

C D

REF.NO.	PART NO.	DESCRIPTION			REMARK
C710	1-124-477-11	ELECT	47MF	20%	16V
C711	1-102-074-00	CERAMIC	0.001MF	10%	50V
C712	1-102-074-00	CERAMIC	0.001MF	10%	50V
C713	1-102-074-00	CERAMIC	0.001MF	10%	50V
C714	1-162-318-11	CERAMIC	0.001MF	10%	500V
		<CONNECTOR>			
CNC71	*1-508-786-00	PIN, CONNECTOR (5MM PITCH) 2P			
CNC72	*1-560-123-00	PLUG, CONNECTOR (2.5MM) 3P			
CNC73	*1-560-126-00	PLUG, CONNECTOR (2.5MM) 6P			
CNC74	*1-508-765-00	PIN, CONNECTOR (5MM PITCH) 3P			
		<DIODE>			
D701	8-719-911-19	DIODE 1SS119			
D702	8-719-911-19	DIODE 1SS119			
D703	8-719-911-19	DIODE 1SS119			
D704	8-719-911-19	DIODE 1SS119			
D705	8-719-911-19	DIODE 1SS119			
D706	8-719-911-19	DIODE 1SS119			
D707	8-719-911-19	DIODE 1SS119			
D708	8-719-911-19	DIODE 1SS119			
D709	8-719-911-19	DIODE 1SS119			
		<JACK>			
J901	1-526-814-11	SOCKET, PICTURE TUBE			
		<COIL>			
L701	1-407-496-00	INDUCTOR	2.2MMH		
		<TRANSISTOR>			
Q701	8-729-119-78	TRANSISTOR 2SC2785-HFE			
Q702	8-729-119-78	TRANSISTOR 2SC2785-HFE			
Q703	8-729-119-78	TRANSISTOR 2SC2785-HFE			
Q704	8-729-906-70	TRANSISTOR BF871			
Q705	8-729-906-70	TRANSISTOR BF871			
Q706	8-729-906-70	TRANSISTOR BF871			
Q707	8-729-200-17	TRANSISTOR 2SA1091-O			
Q708	8-729-200-17	TRANSISTOR 2SA1091-O			
Q709	8-729-200-17	TRANSISTOR 2SA1091-O			
		<RESISTOR>			
R701	1-249-423-11	CARBON	3.3K	5%	1/4W
R702	1-249-423-11	CARBON	3.3K	5%	1/4W
R703	1-249-415-11	CARBON	680	5%	1/4W
R704	1-249-415-11	CARBON	680	5%	1/4W
R705	1-249-401-11	CARBON	47	5%	1/4W
R706	1-249-401-11	CARBON	47	5%	1/4W
R707	1-249-401-11	CARBON	47	5%	1/4W
R708	1-249-417-11	CARBON	1K	5%	1/4W
R709	1-249-416-11	CARBON	820	5%	1/4W
R710	1-249-413-11	CARBON	470	5%	1/4W
R712	1-247-891-00	CARBON	330K	5%	1/4W
R713	1-247-881-00	CARBON	120K	5%	1/4W
R714	1-249-417-11	CARBON	1K	5%	1/4W
R715	1-249-417-11	CARBON	1K	5%	1/4W
R716	1-249-417-11	CARBON	1K	5%	1/4W
R717	1-202-824-00	SOLID	3.3K	10%	1/2W
R718	1-202-824-00	SOLID	3.3K	10%	1/2W
R719	1-202-824-00	SOLID	3.3K	10%	1/2W
R720	1-216-463-00	METAL OXIDE	12K	5%	2W
R721	1-216-463-00	METAL OXIDE	12K	5%	2W
R722	1-216-463-00	METAL OXIDE	12K	5%	2W
R726	1-202-719-00	SOLID	1M	10%	1/2W
R727	1-202-838-00	SOLID	100K	10%	1/2W
R728	1-202-842-11	SOLID	220K	10%	1/2W
R729	1-216-348-00	WIREWOUND	0.82	10%	1/2W
R730	1-249-405-11	CARBON	100	5%	1/4W
R731	1-202-719-00	SOLID	1M	10%	1/2W
R732	1-247-895-00	CARBON	470K	5%	1/4W
R734	1-249-421-11	CARBON	2.2K	5%	1/4W
R735	1-249-421-11	CARBON	2.2K	5%	1/4W
R736	1-249-421-11	CARBON	2.2K	5%	1/4W
		<VARIABLE RESISTOR>			
RV701	1-228-721-00	RES, ADJ, CERAMIC CARBON 2.2K			
RV702	1-228-721-00	RES, ADJ, CERAMIC CARBON 2.2K			
RV703	1-230-641-11	RES, ADJ, METAL GLAZE 2.2M			
RV704	1-230-641-11	RES, ADJ, METAL GLAZE 2.2M			
RV705	1-230-619-11	RES, ADJ, METAL GLAZE 110M			
**********					
	*A-1345-917-A	D BOARD, COMPLETE			
		**********			
	*4-341-751-01	EYELET			
	*4-341-752-01	EYELET			
		<CAPACITOR>			
C001	1-126-233-11	ELECT	22MF	20%	50V
C002	1-124-791-11	ELECT	1MF	20%	50V
C003	1-124-791-11	ELECT	1MF	20%	50V
C004	1-102-973-00	CERAMIC	100PF	5%	50V
C005	1-106-220-00	MYLAR	0.1MF	10%	100V
C007	1-124-927-11	ELECT	4.7MF	20%	50V
C009	1-102-111-00	CERAMIC	270PF	10%	50V
C010	1-102-965-00	CERAMIC	39PF	5%	50V
C011	1-102-965-00	CERAMIC	39PF	5%	50V
C012	1-101-004-00	CERAMIC	0.01MF		50V
C013	1-102-959-00	CERAMIC	22PF	5%	50V
C014	1-101-004-00	CERAMIC	0.01MF		50V
C015	1-124-479-11	ELECT	330MF	20%	25V
C016	1-102-978-00	CERAMIC	220PF	5%	50V
C019	1-126-233-11	ELECT	22MF	20%	50V
C020	1-126-233-11	ELECT	22MF	20%	50V
C022	1-101-004-00	CERAMIC	0.01MF		50V
C033	1-101-004-00	CERAMIC	0.01MF		50V
C034	1-126-101-11	ELECT	100MF	20%	16V
C037	1-101-004-00	CERAMIC	0.01MF		50V
C041	1-102-116-00	CERAMIC	680PF	10%	50V
C042	1-102-973-00	CERAMIC	100PF	5%	50V
C043	1-102-978-00	CERAMIC	220PF	5%	50V
C071	1-106-220-00	MYLAR	0.1MF	10%	100V
C072	1-106-383-00	MYLAR	0.047MF	10%	100V
C073	1-101-004-00	CERAMIC	0.01MF		50V
C075	1-102-074-00	CERAMIC	0.001MF	10%	50V
C076	1-102-125-00	CERAMIC	0.0047MF	10%	50V
C151	1-124-477-11	ELECT	47MF	20%	16V
C152	1-124-480-95	ELECT	470MF	20%	25V
C154	1-106-216-00	MYLAR	0.068MF	10%	100V
C155	1-106-216-00	MYLAR	0.068MF	10%	100V
C156	1-101-004-00	CERAMIC	0.01MF		50V

D

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION				REMARK
C157	1-102-963-00	CERAMIC	33PF	5%	50V	
C158	1-124-477-11	ELECT	47MF	20%	16V	
C163	1-101-003-00	CERAMIC	0.0047MF		50V	
C201	1-124-479-11	ELECT	330MF	20%	25V	
C202	1-106-220-00	MYLAR	0.1MF	10%	100V	
C203	1-124-791-11	ELECT	1MF	20%	50V	
C204	1-106-383-00	MYLAR	0.047MF	10%	100V	
C205	1-123-875-11	ELECT	10MF	20%	50V	
C206	1-106-220-00	MYLAR	0.1MF	10%	100V	
C207	1-106-220-00	MYLAR	0.1MF	10%	100V	
C208	1-126-104-11	ELECT	470MF	20%	25V	
C212	1-102-973-00	CERAMIC	100PF	5%	50V	
C213	1-101-005-00	CERAMIC	0.022MF		50V	
C402	1-101-003-00	CERAMIC	0.0047MF		50V	
C411	1-102-074-00	CERAMIC	0.001MF	10%	50V	
C412	1-126-101-11	ELECT	100MF	20%	16V	
C417	1-101-005-00	CERAMIC	0.022MF		50V	
C418	1-102-074-00	CERAMIC	0.001MF	10%	50V	
C433	1-102-125-00	CERAMIC	0.0047MF	10%	50V	
C451	1-102-114-00	CERAMIC	470PF	10%	50V	
C452	1-102-114-00	CERAMIC	470PF	10%	50V	
C453	1-102-114-00	CERAMIC	470PF	10%	50V	
C454	1-102-114-00	CERAMIC	470PF	10%	50V	
C455	1-102-114-00	CERAMIC	470PF	10%	50V	
C456	1-102-114-00	CERAMIC	470PF	10%	50V	
C457	1-124-902-00	ELECT	0.47MF	20%	50V	
C458	1-124-477-11	ELECT	47MF	20%	16V	
C459	1-124-902-00	ELECT	0.47MF	20%	50V	
C460	1-124-477-11	ELECT	47MF	20%	16V	
C461	1-124-477-11	ELECT	47MF	20%	16V	
C462	1-101-004-00	CERAMIC	0.01MF		50V	
C463	1-102-125-00	CERAMIC	0.0047MF	10%	50V	
C464	1-102-125-00	CERAMIC	0.0047MF	10%	50V	
C465	1-102-125-00	CERAMIC	0.0047MF	10%	50V	
C466	1-102-125-00	CERAMIC	0.0047MF	10%	50V	
C467	1-124-442-00	ELECT	330MF	20%	6.3V	
C468	1-102-973-00	CERAMIC	100PF	5%	50V	
C469	1-102-973-00	CERAMIC	100PF	5%	50V	
C470	1-102-973-00	CERAMIC	100PF	5%	50V	
C471	1-102-973-00	CERAMIC	100PF	5%	50V	
C474	1-102-125-00	CERAMIC	0.0047MF	10%	50V	
C475	1-102-125-00	CERAMIC	0.0047MF	10%	50V	
C476	1-102-125-00	CERAMIC	0.0047MF	10%	50V	
C477	1-102-973-00	CERAMIC	100PF	5%	50V	
C478	1-102-973-00	CERAMIC	100PF	5%	50V	
C501	1-101-004-00	CERAMIC	0.01MF		50V	
C502	1-102-117-00	CERAMIC	820PF	10%	50V	
C503	1-101-880-00	CERAMIC	47PF	5%	50V	
C504	1-124-480-95	ELECT	470MF	20%	25V	
C505	1-124-122-11	ELECT	100MF	20%	50V	
C506	1-130-833-00	MYLAR	0.82MF	10%	63V	
C507	1-124-913-95	ELECT	470MF	20%	50V	
C508	1-106-220-00	MYLAR	0.1MF	10%	100V	
C510	1-126-233-11	ELECT	22MF	20%	50V	
C551	1-124-927-11	ELECT	4.7MF	20%	50V	
C552	1-124-927-11	ELECT	4.7MF	20%	50V	
C553	1-106-220-00	MYLAR	0.1MF	10%	100V	
C554	1-126-233-11	ELECT	22MF	20%	50V	
C555	1-124-925-11	ELECT	2.2MF	20%	50V	
C556	1-101-361-00	CERAMIC	150PF	5%	50V	
C557	1-130-783-00	MYLAR	0.33MF	10%	100V	
C558	1-130-783-00	MYLAR	0.33MF	10%	100V	
C559	1-106-357-00	MYLAR	0.0039MF	10%	400V	
C560	1-126-101-11	ELECT	100MF	20%	16V	

REF.NO.	PART NO.	DESCRIPTION				REMARK
C561	1-106-220-00	MYLAR	0.1MF	10%	100V	
C562	1-161-961-00	CERAMIC	0.0022MF	10%	3KV	
C563	1-124-477-11	ELECT	47MF	20%	16V	
C564	1-136-298-00	FILM	0.0033MF	2%	100V	
C565	1-106-228-00	MYLAR	0.22MF	10%	100V	
C566	1-102-942-00	CERAMIC	5PF	1PF	50V	
C567	1-106-371-00	MYLAR	0.015MF	10%	400V	
C568	1-161-961-00	CERAMIC	0.0022MF	10%	3KV	
C571	1-126-101-11	ELECT	100MF	20%	16V	
C601 ⚠	1-161-964-61	CERAMIC	0.0047MF		250V	
C602 ⚠	1-161-964-61	CERAMIC	0.0047MF		250V	
C603	1-162-599-12	CERAMIC	0.0047MF		250V	
C604	1-125-293-00	ELECT(BLOCK)	220MF		400V	
C605	1-161-753-00	CERAMIC	470PF	10%	3KV	
C606	1-136-637-21	FILM	0.047MF	10%	630V	
C607	1-106-383-00	MYLAR	0.047MF	10%	100V	
C608	1-162-116-00	CERAMIC	680PF	10%	2KV	
C609	1-124-347-00	ELECT	100MF	20%	160V	
C610	1-124-557-11	ELECT	1000MF	20%	25V	
C614	1-126-101-11	ELECT	100MF	20%	16V	
C615 ⚠	1-162-578-51	CERAMIC	0.0047MF	20%	400V	
C616 ⚠	1-162-578-51	CERAMIC	0.0047MF	20%	400V	
C618	1-126-233-11	ELECT	22MF	20%	50V	
C620 ⚠	1-136-519-11	FILM	0.47MF	20%	300V	
C621 ⚠	1-136-519-11	FILM	0.47MF	20%	300V	
C622 ⚠	1-162-578-51	CERAMIC	0.0047MF	20%	400V	
C623 ⚠	1-162-578-51	CERAMIC	0.0047MF	20%	400V	
C624	1-161-754-00	CERAMIC	0.001MF	10%	3KV	
C625	1-102-125-00	CERAMIC	0.0047MF	10%	50V	
C628	1-102-125-00	CERAMIC	0.0047MF	10%	50V	
C631	1-102-244-00	CERAMIC	220PF	10%	500V	
C633 ⚠	1-102-316-91	CERAMIC	15PF	5%	500V	
C634 ⚠	1-102-316-91	CERAMIC	15PF	5%	500V	
C801	1-124-791-11	ELECT	1MF	20%	50V	
C802	1-123-932-00	ELECT	4.7MF	20%	160V	
C803	1-106-383-00	MYLAR	0.047MF	10%	100V	
C804	1-106-357-00	MYLAR	0.0039MF	10%	400V	
C805	1-102-244-00	CERAMIC	220PF	10%	500V	
C806 ⚠	1-162-116-51	CERAMIC	680PF	10%	2KV	
C807	1-136-932-11	FILM	0.82MF	5%	100V	
C808 ⚠	1-136-645-21	FILM	0.068MF	10%	160V	
C811	1-123-875-11	ELECT	10MF	20%	50V	
C812 ⚠	1-136-073-11	FILM	0.0073MF	3%	2KV	
C813	1-102-074-00	CERAMIC	0.001MF	10%	50V	
C814	1-106-375-12	MYLAR	0.022MF	10%	250V	
C815	1-124-634-11	ELECT	1MF	20%	250V	
C818	1-126-101-11	ELECT	100MF	20%	16V	
C819	1-102-074-00	CERAMIC	0.001MF	10%	50V	
C821	1-106-226-00	MYLAR	0.18MF	10%	100V	
C822	1-136-632-21	FILM	1.5MF	5%	160V	
C825	1-106-367-00	MYLAR	0.01MF	10%	400V	
C851	1-123-948-00	ELECT	22MF	20%	250V	
C852	1-162-114-00	CERAMIC	0.0047MF		2KV	
C853	1-162-318-11	CERAMIC	0.001MF	10%	500V	
C856	1-162-318-11	CERAMIC	0.001MF	10%	500V	
C857	1-106-375-12	MYLAR	0.022MF	10%	250V	
C858	1-124-513-11	ELECT	47MF	20%	50V	
C859	1-126-101-11	ELECT	100MF	20%	16V	
C860	1-102-228-00	CERAMIC	470PF	10%	500V	

<FILTER>

CF001	1-577-082-11	VIBRATOR, CERAMIC	

D

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION	REMARK
		<CONNECTOR>	
CND21	*1-564-505-11	PLUG, CONNECTOR 2P	
CND42	*1-565-394-11	PIN, BOARD TO BOARD CONNECTOR	
CND43	*1-565-394-11	PIN, BOARD TO BOARD CONNECTOR	
CND46	*1-565-394-11	PIN, BOARD TO BOARD CONNECTOR	
CND47	*1-565-394-11	PIN, BOARD TO BOARD CONNECTOR	
CND48	*1-565-394-11	PIN, BOARD TO BOARD CONNECTOR	
CND49	*1-565-503-11	CONNECTOR, BOARD TO BOARD 12P	
CND50	*1-564-505-11	PLUG, CONNECTOR 2P	
CND51	*1-508-784-00	PIN, CONNECTOR (5MM PITCH) 1P	
CND61	*1-508-765-00	PIN, CONNECTOR (5MM PITCH) 3P	
CND62	*1-565-458-11	PIN, CONNECTOR 3P	
CND81	*1-568-536-11	PLUG (MINIATURE DY) 6P	
CND82	*1-508-768-00	PIN, CONNECTOR (5MM PITCH) 6P	
CND83	*1-508-784-00	PIN, CONNECTOR (5MM PITCH) 1P	
		<DIODE>	
D002	8-719-911-19	DIODE 1SS119	
D003	8-719-911-19	DIODE 1SS119	
D005	8-719-312-99	DIODE SEL1210R-CD	
	*4-389-319-01	HOLDER, LED; D005	
D007	8-719-911-19	DIODE 1SS119	
D008	8-719-911-19	DIODE 1SS119	
D009	8-719-911-19	DIODE 1SS119	
D010	8-719-911-19	DIODE 1SS119	
D011	8-719-911-19	DIODE 1SS119	
D016	8-719-911-19	DIODE 1SS119	
D017	8-719-911-19	DIODE 1SS119	
D019	8-719-911-19	DIODE 1SS119	
D025	8-719-109-71	DIODE RD3.9ES-B1	
D151	8-719-911-19	DIODE 1SS119	
D156	8-719-911-19	DIODE 1SS119	
D201	8-719-911-19	DIODE 1SS119	
D202	8-719-911-19	DIODE 1SS119	
D402	8-719-929-28	DIODE HZS12NB3	
D403	8-719-929-28	DIODE HZS12NB3	
D404	8-719-929-28	DIODE HZS12NB3	
D410	8-719-911-19	DIODE 1SS119	
D413	8-719-929-28	DIODE HZS12NB3	
D451	8-719-929-28	DIODE HZS12NB3	
D452	8-719-929-28	DIODE HZS12NB3	
D453	8-719-929-28	DIODE HZS12NB3	
D454	8-719-929-28	DIODE HZS12NB3	
D457	8-719-929-28	DIODE HZS12NB3	
D458	8-719-929-28	DIODE HZS12NB3	
D459	8-719-929-28	DIODE HZS12NB3	
D501	8-719-911-55	DIODE U05G	
D551	8-719-911-55	DIODE U05G	
D601	⚠ 8-719-946-90	DIODE KBU4JL-6088	
D602	8-719-300-65	DIODE ES1F	
D603	8-719-911-55	DIODE U05G	
D604	8-719-979-85	DIODE EGP20G	
D605	8-719-950-57	DIODE BYD33G	
D606	8-719-980-78	DIODE ERA83-006	
D607	8-719-950-57	DIODE BYD33G	
D608	8-719-950-57	DIODE BYD33G	
D609	8-719-911-55	DIODE U05G	
D610	8-719-911-55	DIODE U05G	
D611	8-719-303-49	DIODE R2M	
D801	8-719-945-80	DIODE ERC06-15S	
D802	8-719-979-85	DIODE EGP20G	
D851	8-719-950-57	DIODE BYD33G	
D852	8-719-300-65	DIODE ES1F	
D853	8-719-950-57	DIODE BYD33G	
D855	8-719-950-57	DIODE BYD33G	
D857	8-719-911-55	DIODE U05G	
D858	8-719-911-55	DIODE U05G	
		<IC>	
IC001	8-759-631-23	IC M50436-618SP	
IC002	8-752-330-60	IC CXK1012P	
IC003	8-749-920-65	IC KEY-C00SV	
IC004	8-759-157-40	IC UPC574J	
IC005	8-759-501-61	IC L7805CV	
IC201	8-759-980-45	IC TDA1013A-N4	
IC501	8-759-113-05	IC UPC1488H	
	*4-368-683-01	SPRING; IC501	
IC551	8-759-991-46	IC TDA2579A-N8	
IC601	8-749-901-65	IC STR54041	
	4-365-216-00	SPACER, MICA; IC601	
	*4-368-683-01	SPRING; IC601	
IC801	8-759-945-58	IC RC4558P	
IC851	8-759-503-54	IC L78S12CV	
	*4-368-683-01	SPRING; IC851	
		<JACK>	
J401	1-561-534-00	SOCKET 21P	
J451	1-569-804-11	JACK BLOCK, PIN (L TYPE) 3P	
		<COIL>	
L002	1-408-411-00	INDUCTOR 15UH	
L003	1-408-409-00	INDUCTOR 10UH	
L004	1-408-415-00	INDUCTOR 33UH	
L005	1-410-663-31	INDUCTOR 10UH	
L151	1-459-215-00	CORE COIL	
L152	1-410-683-31	INDUCTOR 560UH	
L153	1-408-399-00	INDUCTOR 1.5UH	
L202	1-408-409-00	INDUCTOR 10UH	
L410	1-408-397-00	INDUCTOR 1UH	
L451	1-408-397-00	INDUCTOR 1UH	
L452	1-408-397-00	INDUCTOR 1UH	
L453	1-459-407-00	COIL, FERRITE CHOKE	
L459	1-410-397-21	FERRITE BEAD INDUCTOR	
L460	1-410-397-21	FERRITE BEAD INDUCTOR	
L501	1-408-226-00	INDUCTOR 82UH	
L803	1-407-365-00	COIL,CHOKE	
L804	1-459-105-21	COIL(WITH CORE)	
L805	1-459-635-11	HLC	
L806	1-459-856-11	COIL, FERRITE	
L821	1-459-881-11	COIL, CHOKE 2.7MMH	
L822	1-410-067-21	INDUCTOR 4.7MMH	
L823	1-459-855-11	COIL, FERRITE	
		<IC LINK>	
PS501	⚠ 1-532-679-91	LINK, IC (ICP-N15) 0.6A	
PS802	⚠ 1-532-679-91	LINK, IC (ICP-N15) 0.6A	
		<TRANSISTOR>	
Q001	8-729-900-36	TRANSISTOR DTC124ES	
Q003	8-729-900-63	TRANSISTOR DTA124ES	

REF.NO.	PART NO.	DESCRIPTION	REMARK
Q004	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q005	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q008	8-729-900-36	TRANSISTOR DTC124ES	
Q009	8-729-900-74	TRANSISTOR DTC143TS	
Q012	8-729-173-38	TRANSISTOR 2SA733-K	
Q015	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q071	8-729-173-38	TRANSISTOR 2SA733-K	
Q151	8-729-900-61	TRANSISTOR DTA114ES	
Q152	8-729-900-61	TRANSISTOR DTA114ES	
Q154	8-729-900-61	TRANSISTOR DTA114ES	
Q155	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q402	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q453	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q501	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q551	8-729-173-38	TRANSISTOR 2SA733-K	
Q601	8-729-906-74	TRANSISTOR BC637-16	
Q801	8-729-119-80	TRANSISTOR 2SC2688-LK	
Q802	8-729-926-44	TRANSISTOR BU506DF-S	
	*4-389-343-01	SPRING; Q802	
Q803	8-729-920-92	TRANSISTOR 2SD2096-EF	
Q804	8-729-119-78	TRANSISTOR 2SC2785-HFE	

<RESISTOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
R001	1-249-438-11	CARBON	56K	5%	1/4W	
R002	1-249-440-11	CARBON	82K	5%	1/4W	
R004	1-249-439-11	CARBON	68K	5%	1/4W	
R005	1-249-413-11	CARBON	470	5%	1/4W	
R006	1-249-441-11	CARBON	100K	5%	1/4W	
R008	1-249-429-11	CARBON	10K	5%	1/4W	
R009	1-249-429-11	CARBON	10K	5%	1/4W	
R010	1-249-433-11	CARBON	22K	5%	1/4W	
R011	1-249-433-11	CARBON	22K	5%	1/4W	
R012	1-249-433-11	CARBON	22K	5%	1/4W	
R013	1-249-433-11	CARBON	22K	5%	1/4W	
R014	1-215-900-11	METAL OXIDE	22K	5%	2W	
R015	1-249-421-11	CARBON	2.2K	5%	1/4W	
R016	1-249-433-11	CARBON	22K	5%	1/4W	
R017	1-249-407-11	CARBON	150	5%	1/4W	
R018	1-249-417-11	CARBON	1K	5%	1/4W	
R019	1-249-413-11	CARBON	470	5%	1/4W	
R020	1-249-413-11	CARBON	470	5%	1/4W	
R021	1-249-413-11	CARBON	470	5%	1/4W	
R022	1-249-411-11	CARBON	330	5%	1/4W	
R023	1-249-416-11	CARBON	820	5%	1/4W	
R025	1-249-417-11	CARBON	1K	5%	1/4W	
R029	1-249-429-11	CARBON	10K	5%	1/4W	
R030	1-249-429-11	CARBON	10K	5%	1/4W	
R035	1-249-431-11	CARBON	15K	5%	1/4W	
R037	1-249-429-11	CARBON	10K	5%	1/4W	
R038	1-249-429-11	CARBON	10K	5%	1/4W	
R039	1-249-417-11	CARBON	1K	5%	1/4W	
R040	1-249-430-11	CARBON	12K	5%	1/4W	
R042	1-249-433-11	CARBON	22K	5%	1/4W	
R043	1-249-429-11	CARBON	10K	5%	1/4W	
R044	1-249-433-11	CARBON	22K	5%	1/4W	
R046	1-249-425-11	CARBON	4.7K	5%	1/4W	
R051	1-249-427-11	CARBON	6.8K	5%	1/4W	
R055	1-249-413-11	CARBON	470	5%	1/4W	
R056	1-249-423-11	CARBON	3.3K	5%	1/4W	
R058	1-249-429-11	CARBON	10K	5%	1/4W	
R059	1-249-426-11	CARBON	5.6K	5%	1/4W	
R061	1-249-413-11	CARBON	470	5%	1/4W	
R063	1-249-422-11	CARBON	2.7K	5%	1/4W	
R064	1-249-417-11	CARBON	1K	5%	1/4W	
R065	1-249-433-11	CARBON	22K	5%	1/4W	
R066	1-249-425-11	CARBON	4.7K	5%	1/4W	
R070	1-249-429-11	CARBON	10K	5%	1/4W	
R071	1-249-413-11	CARBON	470	5%	1/4W	
R072	1-249-441-11	CARBON	100K	5%	1/4W	
R073	1-249-435-11	CARBON	33K	5%	1/4W	
R074	1-249-429-11	CARBON	10K	5%	1/4W	
R075	1-249-431-11	CARBON	15K	5%	1/4W	
R076	1-249-423-11	CARBON	3.3K	5%	1/4W	
R077	1-249-435-11	CARBON	33K	5%	1/4W	
R078	1-249-427-11	CARBON	6.8K	5%	1/4W	
R079	1-249-429-11	CARBON	10K	5%	1/4W	
R080	1-249-429-11	CARBON	10K	5%	1/4W	
R084	1-249-424-11	CARBON	3.9K	5%	1/4W	
R085	1-247-881-00	CARBON	120K	5%	1/4W	
R086	1-249-429-11	CARBON	10K	5%	1/4W	
R151	1-249-405-11	CARBON	100	5%	1/4W	
R152	1-249-429-11	CARBON	10K	5%	1/4W	
R153	1-249-433-11	CARBON	22K	5%	1/4W	
R154	1-249-429-11	CARBON	10K	5%	1/4W	
R155	1-249-418-11	CARBON	1.2K	5%	1/4W	
R156	1-247-891-00	CARBON	330K	5%	1/4W	
R157	1-249-421-11	CARBON	2.2K	5%	1/4W	
R158	1-249-421-11	CARBON	2.2K	5%	1/4W	
R172	1-249-422-11	CARBON	2.7K	5%	1/4W	
R173	1-249-429-11	CARBON	10K	5%	1/4W	
R180	1-249-419-11	CARBON	1.5K	5%	1/4W	
R201	1-249-387-11	CARBON	3.3	5%	1/4W	
R202	1-247-887-00	CARBON	220K	5%	1/4W	
R203	1-249-411-11	CARBON	330	5%	1/4W	
R401	1-247-804-11	CARBON	75	5%	1/4W	
R402	1-247-804-11	CARBON	75	5%	1/4W	
R403	1-247-804-11	CARBON	75	5%	1/4W	
R404	1-247-804-11	CARBON	75	5%	1/4W	
R405	1-249-411-11	CARBON	330	5%	1/4W	
R406	1-249-411-11	CARBON	330	5%	1/4W	
R407	1-249-411-11	CARBON	330	5%	1/4W	
R418	1-249-417-11	CARBON	1K	5%	1/4W	
R420	1-249-413-11	CARBON	470	5%	1/4W	
R421	1-249-409-11	CARBON	220	5%	1/4W	
R422	1-249-404-00	CARBON	82	5%	1/4W	
R427	1-247-804-11	CARBON	75	5%	1/4W	
R432	1-249-437-11	CARBON	47K	5%	1/4W	
R443	1-249-441-11	CARBON	100K	5%	1/4W	
R445	1-216-452-11	METAL OXIDE	180	5%	2W	F
R451	1-249-417-11	CARBON	1K	5%	1/4W	
R452	1-249-417-11	CARBON	1K	5%	1/4W	
R453	1-249-438-11	CARBON	56K	5%	1/4W	
R454	1-249-417-11	CARBON	1K	5%	1/4W	
R455	1-249-438-11	CARBON	56K	5%	1/4W	
R456	1-249-417-11	CARBON	1K	5%	1/4W	
R457	1-249-403-11	CARBON	68	5%	1/4W	
R460	1-249-405-11	CARBON	100	5%	1/4W	
R463	1-249-435-11	CARBON	33K	5%	1/4W	
R464	1-249-437-11	CARBON	47K	5%	1/4W	
R465	1-249-405-11	CARBON	100	5%	1/4W	
R466	1-249-421-11	CARBON	2.2K	5%	1/4W	
R467	1-249-434-11	CARBON	27K	5%	1/4W	
R468	1-247-891-00	CARBON	330K	5%	1/4W	
R471	1-247-700-11	CARBON	100	5%	1/4W	
R472	1-247-700-11	CARBON	100	5%	1/4W	
R501	1-249-425-11	CARBON	4.7K	5%	1/4W	

D H

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION				REMARK
R502	1-247-744-11	CARBON	270	5%	1/2W	
R503	1-215-867-00	METAL OXIDE	470	5%	1W	
R504	1-247-895-00	CARBON	470K	5%	1/4W	
R505	1-249-429-11	CARBON	10K	5%	1/4W	
R506	1-249-423-11	CARBON	3.3K	5%	1/4W	
R507	1-249-435-11	CARBON	33K	5%	1/4W	
R508	1-216-347-11	METAL OXIDE	0.68	5%	1W	F
R509	1-247-893-11	CARBON	390K	5%	1/4W	
R510	1-249-439-11	CARBON	68K	5%	1/4W	
R511	1-247-891-00	CARBON	330K	5%	1/4W	
R513	1-249-424-11	CARBON	3.9K	5%	1/4W	
R551	1-216-427-00	METAL OXIDE	120	5%	1W	F
R552	1-249-419-11	CARBON	1.5K	5%	1/4W	
R553	1-249-426-11	CARBON	5.6K	5%	1/4W	
R554	1-249-404-00	CARBON	82	5%	1/4W	
R555	1-249-423-11	CARBON	3.3K	5%	1/4W	
R556	1-249-418-11	CARBON	1.2K	5%	1/4W	
R558	1-249-417-11	CARBON	1K	5%	1/4W	
R559	1-249-434-11	METAL	27K	5%	1/4W	
R560	1-247-887-00	METAL	220K	5%	1/4W	
R561	1-249-412-11	CARBON	390	5%	1/4W	
R562	1-249-432-11	METAL	18K	5%	1/4W	
R563	1-249-409-11	CARBON	220	5%	1/4W	
R564	1-249-410-11	CARBON	270	5%	1/4W	
R565	1-215-454-00	METAL	24K	1%	1/6W	
R569	1-249-431-11	CARBON	15K	5%	1/4W	
R570	1-124-902-00	ELECT	0.47MF		20%	50V
R571	1-249-436-11	CARBON	39K	5%	1/4W	
R572	1-249-405-11	CARBON	100	5%	1/4W	
R573	1-249-433-11	CARBON	22K	5%	1/4W	
R574	1-249-439-11	CARBON	68K	5%	1/4W	
R575	1-249-421-11	CARBON	2.2K	5%	1/4W	
R576	1-249-432-11	CARBON	18K	5%	1/4W	
R577	1-249-405-11	CARBON	100	5%	1/4W	
R601 ⚠	1-205-909-11	WIREWOUND	3.3	5%	10W	F
R602	1-214-931-00	CARBON	560K	5%	1/2W	
R603	1-215-903-11	METAL OXIDE	68K	5%	2W	
R604	1-247-750-11	CARBON	680	5%	1/2W	
R605 ⚠	1-218-265-91	METAL GLAZE	8.2M	5%	1W	
R606	1-212-877-11	FUSIBLE	68	5%	1/4W	
R608	1-216-449-11	METAL OXIDE	56	5%	2W	
R609	1-207-905-00	WIREWOUND	0.27	10%	2W	
R610	1-247-887-00	CARBON	220K	5%	1/4W	
R612	1-217-809-11	FUSIBLE	0.33	5%	1/4W	
R613	1-217-811-11	FUSIBLE	0.47	5%	1/4W	
R615	1-249-399-11	CARBON	33	5%	1/4W	
R617	1-216-354-11	METAL OXIDE	2.7	5%	1W	F
R801	1-217-811-11	FUSIBLE	0.47	5%	1/4W	
R802	1-205-642-00	WIREWOUND	3.3K	10%	5W	F
R804	1-217-822-11	FUSIBLE	4.7K	5%	1/4W	
R805	1-249-399-11	CARBON	33	5%	1/4W	
R806	1-249-421-11	CARBON	2.2K	5%	1/4W	
R807	1-212-877-11	FUSIBLE	68	5%	1/4W	
R808	1-216-347-11	METAL OXIDE	0.68	5%	1W	F
R809	1-249-421-11	CARBON	2.2K	5%	1/4W	
R810	1-202-721-00	SOLID	1.5M	10%	1/2W	
R822	1-247-903-00	CARBON	1M	5%	1/4W	
R823	1-217-820-11	FUSIBLE	3.3K	5%	1/4W	
R824	1-249-434-11	CARBON	27K	5%	1/4W	
R826	1-249-428-11	CARBON	8.2K	5%	1/4W	
R827	1-249-417-11	CARBON	1K	5%	1/4W	
R828	1-249-438-11	CARBON	56K	5%	1/4W	
R829	1-249-438-11	CARBON	56K	5%	1/4W	
R830	1-249-429-11	CARBON	10K	5%	1/4W	

REF.NO.	PART NO.	DESCRIPTION				REMARK
R831	1-249-423-11	CARBON	3.3K	5%	1/4W	
R833	1-212-857-00	FUSIBLE	10	5%	1/4W	
R852	1-216-431-11	METAL OXIDE	560	5%	1W	
R854	1-217-809-11	FUSIBLE	0.33	5%	1/4W	
R855	1-202-830-00	SOLID	10K	10%	1/2W	
R856	1-217-825-11	FUSIBLE	8.2K	5%	1/4W	
R857	1-247-887-00	CARBON	220K	5%	1/4W	
R858	1-215-882-00	METAL OXIDE	22	5%	2W	

<VARIABLE RESISTOR>

RV401	1-238-163-11	RES, VAR, CARBON	10K
RV501	1-238-016-11	RES, ADJ, CARBON	10K
RV552	1-238-020-11	RES, ADJ, CARBON	100K
RV553	1-238-016-11	RES, ADJ, CARBON	10K
RV801	1-223-102-00	RES, ADJ, WIREWOUND	120
RV802	1-238-019-11	RES, ADJ, CARBON	47K

<SWITCH>

S001	1-571-532-21	SWITCH, TACTIL
S002	1-571-532-21	SWITCH, TACTIL
S003	1-571-532-21	SWITCH, TACTIL
S004	1-571-532-21	SWITCH, TACTIL
S005	1-571-532-21	SWITCH, TACTIL
S006	1-571-532-21	SWITCH, TACTIL
S007	1-571-532-21	SWITCH, TACTIL
S451	1-553-667-00	SWITCH, PUSH
S452	1-553-667-00	SWITCH, PUSH

<SPARK GAP>

SG801	1-519-422-11	GAP, SPARK

<TRANSFORMER>

T601 ⚠	1-449-275-12	S.R.T
T603 ⚠	1-424-391-11	TRANSFORMER, LINE FILTER
T604 ⚠	1-424-078-11	TRANSFORMER, TRIGGER PULSE
T605 ⚠	1-424-391-11	TRANSFORMER, LINE FILTER
T801	1-437-078-00	TRANSFORMER, HORIZONTAL DRIVE
T851 ⚠	1-439-432-11	TRANSFORMER ASSY, FLYBACK (UX-1620)

<THERMISTOR>

TH601 ⚠	1-806-165-12	THERMISTOR (POSITIVE)

<TUNER>

TU101 ⚠	1-463-881-11	TUNER, ET (UV-617)

<IF BLOCK>

VIF101 1-466-154-21 IF BLOCK (IFG-389S)

****

*1-634-792-11 H BOARD
****

<CONNECTOR>

CNH951*1-564-508-11 PLUG, CONNECTOR 5P

REF.NO.	PART NO.	DESCRIPTION			REMARK
		<DIODE>			
D951	1-807-643-11	LED UNIT (LEDU-1)			
		<SWITCH>			
S951	1-553-667-00	SWITCH, PUSH			
**********					
	*A-1371-646-A	W BOARD, COMPLETE **********			
	4-391-490-01	TERMINAL (B)			
	4-391-491-01	TERMINAL (A)			
		<CAPACITOR>			
C960	1-164-232-11	CERAMIC CHIP 0.01MF		50V	
C961	1-124-477-11	ELECT 47MF	20%	16V	
C962	1-106-220-00	MYLAR 0.1MF	10%	100V	
C963	1-136-017-00	CERAMIC CHIP 0.0047MF		50V	
C964	1-123-382-00	ELECT 3.3MF	20%	50V	
C965	1-124-477-11	ELECT 47MF	20%	16V	
		<CONNECTOR>			
CN960	*1-564-517-11	PLUG, CONNECTOR 2P			
		<DIODE>			
D960	8-719-938-68	DIODE GL3HY8			
	*4-357-710-00	HOLDER, LED; D960			
D961	8-719-812-41	DIODE TLR124			
	*4-357-710-00	HOLDER, LED; D961			
D962	8-719-400-18	DIODE MA152WK			
D963	8-719-400-18	DIODE MA152WK			
D965	8-719-929-28	DIODE HZS12NB3			
D966	8-719-928-85	DIODE HZS4.7NB2			
		<IC>			
IC960	8-759-501-92	IC BU2305			
		<TRANSISTOR>			
Q960	8-729-920-71	TRANSISTOR 2SA1037K-QR			
Q961	8-729-906-73	TRANSISTOR BC638-16			
Q962	8-729-901-06	TRANSISTOR DTA144EK			
Q963	8-729-901-06	TRANSISTOR DTA144EK			
Q964	8-729-920-71	TRANSISTOR 2SA1037K-QR			
		<RESISTOR>			
JR901	1-216-296-00	METAL GLAZE 0	5%	1/8W	
JR902	1-216-296-00	METAL GLAZE 0	5%	1/8W	
JR903	1-216-296-00	METAL GLAZE 0	5%	1/8W	
R960	1-216-075-00	METAL GLAZE 12K	5%	1/10W	
R961	1-216-097-00	METAL GLAZE 100K	5%	1/10W	
R962	1-216-073-00	METAL GLAZE 10K	5%	1/10W	
R963	1-216-003-11	METAL GLAZE 12	5%	1/10W	
R964	1-216-003-11	METAL GLAZE 12	5%	1/10W	
R965	1-216-043-00	METAL GLAZE 560	5%	1/10W	
R966	1-216-027-00	METAL GLAZE 120	5%	1/10W	
R968	1-216-309-00	METAL GLAZE 5.6	5%	1/10W	
R969	1-216-309-00	METAL GLAZE 5.6	5%	1/10W	
R970	1-216-309-00	METAL GLAZE 5.6	5%	1/10W	
R971	1-216-309-00	METAL GLAZE 5.6	5%	1/10W	
R972	1-216-041-00	METAL GLAZE 470	5%	1/10W	
R974	1-216-107-00	METAL GLAZE 270K	5%	1/10W	
R975	1-216-065-00	METAL GLAZE 4.7K	5%	1/10W	
R977	1-216-073-00	METAL GLAZE 10K	5%	1/10W	
R978	1-216-033-00	METAL GLAZE 220	5%	1/10W	
R979	1-216-033-00	METAL GLAZE 220	5%	1/10W	
		<SWITCH>			
S960	1-554-937-11	SWUTCH, KEY BOARD			
**********					
	*A-1380-301-A	K BOARD, COMPLETE **********			
	*4-352-844-01	PIN, LEAD, COATING			
		<CAPACITOR>			
C14	1-124-477-11	ELECT 47MF	20%	16V	
C15	1-164-232-11	CERAMIC CHIP 0.01MF		50V	
C16	1-164-232-11	CERAMIC CHIP 0.01MF		50V	
C20	1-164-232-11	CERAMIC CHIP 0.01MF		50V	
C21	1-124-477-11	ELECT 47MF	20%	16V	
C25	1-164-232-11	CERAMIC CHIP 0.01MF		50V	
C26	1-126-101-11	ELECT 100MF	20%	16V	
C28	1-164-232-11	CERAMIC CHIP 0.01MF		50V	
C29	1-164-232-11	CERAMIC CHIP 0.01MF		50V	
C30	1-126-101-11	ELECT 100MF	20%	16V	
C31	1-164-232-11	CERAMIC CHIP 0.01MF		50V	
C32	1-124-902-00	ELECT 0.47MF	20%	50V	
C33	1-124-902-00	ELECT 0.47MF	20%	50V	
C34	1-124-477-11	ELECT 47MF	20%	16V	
C35	1-124-477-11	ELECT 47MF	20%	16V	
C36	1-124-477-11	ELECT 47MF	20%	16V	
C37	1-163-005-11	CERAMIC CHIP 470PF	10%	50V	
C38	1-163-005-11	CERAMIC CHIP 470PF	10%	50V	
C39	1-124-477-11	ELECT 47MF	20%	16V	
C40	1-124-477-11	ELECT 47MF	20%	16V	
C41	1-163-005-11	CERAMIC CHIP 470PF	10%	50V	
C42	1-163-005-11	CERAMIC CHIP 470PF	10%	50V	
C43	1-124-477-11	ELECT 47MF	20%	16V	
C44	1-124-477-11	ELECT 47MF	20%	16V	
C45	1-124-477-11	ELECT 47MF	20%	16V	
C46	1-124-477-11	ELECT 47MF	20%	16V	
C47	1-124-477-11	ELECT 47MF	20%	16V	
C48	1-164-232-11	CERAMIC CHIP 0.01MF		50V	
C49	1-124-477-11	ELECT 47MF	20%	16V	
C50	1-164-232-11	CERAMIC CHIP 0.01MF		50V	
C51	1-126-101-11	ELECT 100MF	20%	16V	
C53	1-124-477-11	ELECT 47MF	20%	16V	
C55	1-124-902-00	ELECT 0.47MF	20%	50V	
C56	1-124-902-00	ELECT 0.47MF	20%	50V	
C57	1-124-477-11	ELECT 47MF	20%	16V	
C58	1-164-232-11	CERAMIC CHIP 0.01MF		50V	
C59	1-163-005-11	CERAMIC CHIP 470PF	10%	50V	
C60	1-163-005-11	CERAMIC CHIP 470PF	10%	50V	
C61	1-124-925-11	ELECT 2.2MF	20%	50V	
C62	1-124-925-11	ELECT 2.2MF	20%	50V	

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REF.NO.	PART NO.	DESCRIPTION			REMARK
C63	1-163-005-11	CERAMIC CHIP	470PF	10% 50V	
C64	1-163-005-11	CERAMIC CHIP	470PF	10% 50V	
C65	1-164-232-11	CERAMIC CHIP	0.01MF	50V	
C66	1-126-101-11	ELECT	100MF	20% 16V	
C68	1-164-232-11	CERAMIC CHIP	0.01MF	50V	
C69	1-124-925-11	ELECT	2.2MF	20% 50V	
C70	1-124-925-11	ELECT	2.2MF	20% 50V	
C71	1-164-232-11	CERAMIC CHIP	0.01MF	50V	
C72	1-124-477-11	ELECT	47MF	20% 16V	
C73	1-124-477-11	ELECT	47MF	20% 16V	
C75	1-123-875-11	ELECT	10MF	20% 50V	
		<CONNECTOR>			
CNK01	*1-564-513-11	PLUG, CONNECTOR 10P			
CNK02	*1-564-508-11	PLUG, CONNECTOR 5P			
CNK03	*1-564-508-11	PLUG, CONNECTOR 5P			
CNK46	*1-565-393-11	CONNECTOR, BOARD TO BOARD			
CNK47	*1-565-393-11	CONNECTOR, BOARD TO BOARD			
CNK48	*1-565-393-11	CONNECTOR, BOARD TO BOARD			
		<DIODE>			
D3	8-719-104-34	DIODE 1S2836			
D04	8-719-400-18	DIODE MA152WK			
D05	8-719-400-18	DIODE MA152WK			
D07	8-719-400-18	DIODE MA152WK			
D08	8-719-400-18	DIODE MA152WK			
D13	8-719-104-34	DIODE 1S2836			
D14	8-719-104-34	DIODE 1S2836			
D15	8-719-104-34	DIODE 1S2836			
D18	8-719-104-34	DIODE 1S2836			
D22	8-719-929-28	DIODE HZS12NB3			
D23	8-719-929-28	DIODE HZS12NB3			
D24	8-719-400-18	DIODE MA152WK			
D25	8-719-400-18	DIODE MA152WK			
D26	8-719-104-34	DIODE 1S2836			
D27	8-719-104-34	DIODE 1S2836			
D28	8-719-400-18	DIODE MA152WK			
D29	8-719-400-18	DIODE MA152WK			
D30	8-719-400-18	DIODE MA152WK			
		<IC>			
IC03	8-752-006-12	IC CX20061			
IC04	8-759-946-32	IC TEA2014A			
IC05	8-759-945-58	IC RC4558P			
IC06	8-759-501-49	IC HCF4052BEY			
IC07	8-759-501-49	IC HCF4052BEY			
IC08	8-759-040-53	IC MC14053BCP			
IC09	8-759-501-49	IC HCF4052BEY			
		<JACK>			
J1	1-569-802-11	JACK BLOCK, PIN 2P			
		<TRANSISTOR>			
Q06	8-729-901-01	TRANSISTOR DTC144EK			
Q07	8-729-901-01	TRANSISTOR DTC144EK			
Q08	8-729-920-74	TRANSISTOR 2SC2412K-QR			
Q09	8-729-920-74	TRANSISTOR 2SC2412K-QR			
Q10	8-729-920-71	TRANSISTOR 2SA1037K-QR			
Q11	8-729-920-74	TRANSISTOR 2SC2412K-QR			
Q13	8-729-920-74	TRANSISTOR 2SC2412K-QR			
Q15	8-729-901-06	TRANSISTOR DTA144EK			
Q16	8-729-901-06	TRANSISTOR DTA144EK			
Q17	8-729-920-71	TRANSISTOR 2SA1037K-QR			
Q18	8-729-906-73	TRANSISTOR BC638-16			
Q19	8-729-920-74	TRANSISTOR 2SC2412K-QR			
Q20	8-729-920-74	TRANSISTOR 2SC2412K-QR			
Q21	8-729-920-74	TRANSISTOR 2SC2412K-QR			
Q22	8-729-920-74	TRANSISTOR 2SC2412K-QR			
Q23	8-729-920-74	TRANSISTOR 2SC2412K-QR			
Q24	8-729-920-74	TRANSISTOR 2SC2412K-QR			
Q27	8-729-920-71	TRANSISTOR 2SA1037K-QR			
Q29	8-729-901-01	TRANSISTOR DTC144EK			
Q30	8-729-920-74	TRANSISTOR 2SC2412K-QR			
Q31	8-729-901-01	TRANSISTOR DTC144EK			
Q32	8-729-920-74	TRANSISTOR 2SC2412K-QR			
Q33	8-729-920-74	TRANSISTOR 2SC2412K-QR			
Q34	8-729-920-74	TRANSISTOR 2SC2412K-QR			
Q35	8-729-920-74	TRANSISTOR 2SC2412K-QR			
Q36	8-729-920-74	TRANSISTOR 2SC2412K-QR			
Q37	8-729-920-74	TRANSISTOR 2SC2412K-QR			
Q38	8-729-901-06	TRANSISTOR DTA144EK			
Q39	8-729-901-01	TRANSISTOR DTC144EK			
Q40	8-729-901-01	TRANSISTOR DTC144EK			
		<RESISTOR>			
JR1	1-216-295-00	METAL GLAZE	0	5% 1/10W	
JR2	1-216-295-00	METAL GLAZE	0	5% 1/10W	
JR3	1-216-295-00	METAL GLAZE	0	5% 1/10W	
JR4	1-216-295-00	METAL GLAZE	0	5% 1/10W	
JR5	1-216-295-00	METAL GLAZE	0	5% 1/10W	
JR6	1-216-295-00	METAL GLAZE	0	5% 1/10W	
JR7	1-216-295-00	METAL GLAZE	0	5% 1/10W	
JR8	1-216-295-00	METAL GLAZE	0	5% 1/10W	
JR9	1-216-295-00	METAL GLAZE	0	5% 1/10W	
JR10	1-216-295-00	METAL GLAZE	0	5% 1/10W	
JR11	1-216-295-00	METAL GLAZE	0	5% 1/10W	
JR12	1-216-295-00	METAL GLAZE	0	5% 1/10W	
JR13	1-216-295-00	METAL GLAZE	0	5% 1/10W	
JR14	1-216-295-00	METAL GLAZE	0	5% 1/10W	
JR15	1-216-295-00	METAL GLAZE	0	5% 1/10W	
JR16	1-216-295-00	METAL GLAZE	0	5% 1/10W	
JR17	1-216-295-00	METAL GLAZE	0	5% 1/10W	
JR101	1-216-296-00	METAL GLAZE	0	5% 1/8W	
JR102	1-216-296-00	METAL GLAZE	0	5% 1/8W	
JR103	1-216-296-00	METAL GLAZE	0	5% 1/8W	
JR104	1-216-296-00	METAL GLAZE	0	5% 1/8W	
JR105	1-216-296-00	METAL GLAZE	0	5% 1/8W	
JR106	1-216-296-00	METAL GLAZE	0	5% 1/8W	
JR107	1-216-296-00	METAL GLAZE	0	5% 1/8W	
JR108	1-216-296-00	METAL GLAZE	0	5% 1/8W	
JR109	1-216-296-00	METAL GLAZE	0	5% 1/8W	
JR111	1-216-296-00	METAL GLAZE	0	5% 1/8W	
JR112	1-216-296-00	METAL GLAZE	0	5% 1/8W	
JR113	1-216-296-00	METAL GLAZE	0	5% 1/8W	
JR114	1-216-296-00	METAL GLAZE	0	5% 1/8W	
JR115	1-216-296-00	METAL GLAZE	0	5% 1/8W	
JR116	1-216-296-00	METAL GLAZE	0	5% 1/8W	
JR117	1-216-296-00	METAL GLAZE	0	5% 1/8W	
R21	1-216-025-00	METAL GLAZE	100	5% 1/10W	
R22	1-216-089-00	METAL GLAZE	47K	5% 1/10W	
R23	1-216-057-00	METAL GLAZE	2.2K	5% 1/10W	

REF.NO.	PART NO.	DESCRIPTION				REMARK
R26	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R27	1-216-091-00	METAL GLAZE	56K	5%	1/10W	
R28	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R29	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R30	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R31	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R32	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R33	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R34	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R35	1-216-091-00	METAL GLAZE	56K	5%	1/10W	
R36	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R37	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R38	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R39	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R40	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R41	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R42	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R43	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R44	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R45	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R46	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R48	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R49	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R50	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R51	1-216-105-00	METAL GLAZE	220K	5%	1/10W	
R52	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R53	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R54	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R55	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R56	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R58	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R59	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R60	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R61	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R62	1-216-091-00	METAL GLAZE	56K	5%	1/10W	
R63	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R64	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R65	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R66	1-216-091-00	METAL GLAZE	56K	5%	1/10W	
R67	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R68	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R69	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R72	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R73	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R74	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R75	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R76	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R77	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R78	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R79	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R80	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R81	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R82	1-216-121-00	METAL GLAZE	1M	5%	1/10W	
R83	1-216-072-00	METAL GLAZE	9.1K	5%	1/10W	
R84	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R86	1-216-121-00	METAL GLAZE	1M	5%	1/10W	
R87	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R88	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R89	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R90	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R91	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R92	1-216-105-00	METAL GLAZE	220K	5%	1/10W	
R93	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R94	1-216-109-00	METAL GLAZE	330K	5%	1/10W	
R95	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R97	1-216-109-00	METAL GLAZE	330K	5%	1/10W	
R98	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R99	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R100	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R102	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R103	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R104	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R105	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R106	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R107	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R109	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R110	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R111	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R112	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R113	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R115	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R116	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R117	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R118	1-216-091-00	METAL GLAZE	56K	5%	1/10W	
R119	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R120	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R121	1-216-091-00	METAL GLAZE	56K	5%	1/10W	
R125	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R126	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R127	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R128	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R129	1-216-109-00	METAL GLAZE	330K	5%	1/10W	
R130	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R131	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R132	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R133	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R134	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R135	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R136	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R137	1-216-091-00	METAL GLAZE	56K	5%	1/10W	
R138	1-216-091-00	METAL GLAZE	56K	5%	1/10W	
R139	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R140	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R141	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R142	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	

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1-464-964-21 SIF BOARD (IF BLOCK IFG-5.5S)

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*1-565-488-11 CONNECTOR, BOARD TO BOARD 12P

<CAPACITOR>

C1	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C2	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C3	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C4	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C5	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C6	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C7	1-124-791-11	ELECT	1MF	20%	50V
C8	1-123-875-11	ELECT	10MF	20%	50V
C9	1-130-471-00	MYLAR	0.001MF	5%	50V
C10	1-163-121-00	CERAMIC CHIP	150PF	5%	50V
C11	1-163-119-00	CERAMIC CHIP	120PF	5%	50V
C12	1-136-298-00	FILM	0.0033MF	2%	100V
C13	1-124-477-11	ELECT	47MF	20%	16V
C14	1-124-477-11	ELECT	47MF	20%	16V

SIF TX-1

REF.NO.	PART NO.	DESCRIPTION				REMARK
C15	1-124-477-11	ELECT	47MF	20%	16V	
C16	1-124-477-11	ELECT	47MF	20%	16V	
C17	1-123-875-11	ELECT	10MF	20%	50V	
C18	1-106-367-00	MYLAR	0.01MF	10%	400V	
C19	1-106-367-00	MYLAR	0.01MF	10%	400V	
C20	1-126-233-11	ELECT	22MF	20%	50V	
C21	1-126-233-11	ELECT	22MF	20%	50V	
C22	1-106-220-00	MYLAR	0.1MF	10%	100V	
C23	1-106-228-00	MYLAR	0.22MF	10%	100V	
C24	1-124-963-11	ELECT	33MF	20%	16V	
C25	1-106-375-12	MYLAR	0.022MF	10%	250V	
C26	1-106-383-00	MYLAR	0.047MF	10%	100V	
C27	1-124-791-11	ELECT	1MF	20%	50V	
C28	1-163-103-00	CERAMIC CHIP	27PF	5%	50V	
C29	1-124-791-11	ELECT	1MF	20%	50V	
C30	1-124-791-11	ELECT	1MF	20%	50V	
C31	1-106-367-00	MYLAR	0.01MF	10%	400V	
C32	1-130-479-00	MYLAR	0.0047MF	5%	50V	
C33	1-163-081-00	CERAMIC CHIP	0.22MF		25V	
C34	1-106-228-00	MYLAR	0.22MF	10%	100V	
C35	1-123-875-11	ELECT	10MF	20%	50V	
C36	1-163-119-00	CERAMIC CHIP	120PF	5%	50V	
C37	1-124-477-11	ELECT	47MF	20%	16V	
C38	1-124-477-11	ELECT	47MF	20%	16V	

<DIODE>

D3	8-719-400-18	DIODE MA152WK	

<IC>

IC1	8-759-003-90	IC TBA129	
IC2	8-759-003-90	IC TBA129	
IC3	8-759-030-48	IC TDA6600-2	
IC4	8-759-946-99	IC TDA2595-V7	

<COIL>

L1	1-408-410-00	INDUCTOR	12UH
L2	1-408-410-00	INDUCTOR	12UH
L3	1-410-064-11	INDUCTOR	2.7MMH
L4	1-408-421-00	INDUCTOR	100UH
L5	1-408-421-00	INDUCTOR	100UH

<TRANSISTOR>

Q2	8-729-901-00	TRANSISTOR DTC124EK
Q3	8-729-920-71	TRANSISTOR 2SA1037K-QR
Q4	8-729-901-00	TRANSISTOR DTC124EK

<RESISTOR>

JC1	1-216-296-00	METAL GLAZE	0	5%	1/8W
JC2	1-216-296-00	METAL GLAZE	0	5%	1/8W
JC3	1-216-296-00	METAL GLAZE	0	5%	1/8W
JC4	1-216-296-00	METAL GLAZE	0	5%	1/8W
JC5	1-216-296-00	METAL GLAZE	0	5%	1/8W
R1	1-216-045-00	METAL GLAZE	680	5%	1/10W
R2	1-216-043-00	METAL GLAZE	560	5%	1/10W
R3	1-216-043-00	METAL GLAZE	560	5%	1/10W
R5	1-216-045-00	METAL GLAZE	680	5%	1/10W
R6	1-216-043-00	METAL GLAZE	560	5%	1/10W
R7	1-216-043-00	METAL GLAZE	560	5%	1/10W
R9	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R10	1-216-077-00	METAL GLAZE	15K	5%	1/10W
R11	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R12	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R15	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W
R16	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R17	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R18	1-216-063-00	METAL GLAZE	3.9K	5%	1/10W
R19	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R20	1-216-075-00	METAL GLAZE	12K	5%	1/10W
R22	1-216-099-00	METAL GLAZE	120K	5%	1/10W
R24	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R25	1-216-077-00	METAL GLAZE	15K	5%	1/10W

<VARIABLE RESISTOR>

RV1	1-238-547-11	RES, ADJ, CARBON 10K
RV2	1-238-549-11	RES, ADJ, CARBON 47K

<FILTER>

SFT1	1-527-840-00	FILTER, CERAMIC
SFT2	1-527-839-00	FILTER, CERAMIC

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*A-4503-735-A TX-1 BOARD, COMPLETE
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<CAPACITOR>

C1	1-126-205-11	ELECT CHIP	47MF	20%	6.3V
C2	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C3	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C4	1-126-204-11	ELECT CHIP	47MF	20%	16V
C5	1-126-204-11	ELECT CHIP	47MF	20%	16V
C6	1-126-204-11	ELECT CHIP	47MF	20%	16V
C7	1-126-204-11	ELECT CHIP	47MF	20%	16V
C8	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C9	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C11	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C12	1-163-809-11	CERAMIC CHIP	0.047MF	5%	25V
C13	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C14	1-126-603-11	ELECT CHIP	4.7MF	20%	35V
C15	1-126-601-11	ELECT CHIP	2.2MF	20%	50V
C16	1-126-205-11	ELECT CHIP	47MF	20%	6.3V
C17	1-164-161-11	CERAMIC CHIP	0.0022MF	10%	50V
C18	1-163-093-00	CERAMIC CHIP	10PF	5%	50V
C19	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C20	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C21	1-163-109-00	CERAMIC CHIP	47PF	5%	50V
C22	1-163-095-00	CERAMIC CHIP	12PF	5%	50V
C23	1-163-111-00	CERAMIC CHIP	56PF	5%	50V
C24	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C30	1-126-607-11	ELECT CHIP	47MF	20%	4V
C31	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C36	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C37	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C51	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C52	1-163-809-11	CERAMIC CHIP	0.047MF	5%	25V
C53	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C54	1-126-603-11	ELECT CHIP	4.7MF	20%	35V
C55	1-126-601-11	ELECT CHIP	2.2MF	20%	50V
C56	1-126-205-11	ELECT CHIP	47MF	20%	6.3V
C57	1-164-161-11	CERAMIC CHIP	0.0022MF	10%	50V
C58	1-163-093-00	CERAMIC CHIP	10PF	5%	50V

REF.NO.	PART NO.	DESCRIPTION		REMARK
C59	1-164-232-11	CERAMIC CHIP 0.01MF		50V
C60	1-163-009-11	CERAMIC CHIP 0.001MF	10%	50V
C61	1-163-107-00	CERAMIC CHIP 39PF	5%	50V
C62	1-163-093-00	CERAMIC CHIP 10PF	5%	50V
C63	1-163-109-00	CERAMIC CHIP 47PF	5%	50V
C64	1-163-009-11	CERAMIC CHIP 0.001MF	10%	50V
		<CONNECTOR>		
CN1	*1-564-520-11	PLUG, CONNECTOR 5P		
		<DIODE>		
D1	8-719-975-21	DIODE DN304B		
D2	8-719-975-21	DIODE DN304B		
D3	8-719-975-21	DIODE DN304B		
D4	8-719-975-21	DIODE DN304B		
D5	8-719-975-21	DIODE DN304B		
D6	8-719-975-21	DIODE DN304B		
D7	8-719-975-21	DIODE DN304B		
D8	8-719-975-21	DIODE DN304B		
D9	8-719-105-28	DIODE RD2.4M-B		
D10	8-719-106-08	DIODE RD6.2M-B2		
D11	8-719-939-02	DIODE SVC203CP		
D51	8-719-939-02	DIODE SVC203CP		
		<IC>		
IC1	8-759-998-71	IC BA3308F		
		<COIL>		
L11	1-406-333-11	COIL (OSC)		
L12	1-408-788-21	INDUCTOR CHIP 82UH		
L51	1-406-334-11	COIL (OSC)		
L52	1-408-787-00	INDUCTOR CHIP 68UH		
		<TRANSISTOR>		
Q12	8-729-200-87	TRANSISTOR 2SC2714Y		
Q13	8-729-216-22	TRANSISTOR 2SA1162-G		
Q14	8-729-140-75	TRANSISTOR 2SD999-CLCK		
Q15	8-729-140-75	TRANSISTOR 2SD999-CLCK		
Q52	8-729-200-87	TRANSISTOR 2SC2714Y		
Q53	8-729-216-22	TRANSISTOR 2SA1162-G		
Q54	8-729-140-75	TRANSISTOR 2SD999-CLCK		
Q55	8-729-140-75	TRANSISTOR 2SD999-CLCK		
		<RESISTOR>		
JW1	1-216-296-00	METAL GLAZE	0 5%	1/8W
JW2	1-216-296-00	METAL GLAZE	0 5%	1/8W
JW3	1-216-296-00	METAL GLAZE	0 5%	1/8W
JW4	1-216-296-00	METAL GLAZE	0 5%	1/8W
JW5	1-216-296-00	METAL GLAZE	0 5%	1/8W
JW6	1-216-296-00	METAL GLAZE	0 5%	1/8W
JW7	1-216-296-00	METAL GLAZE	0 5%	1/8W
JW8	1-216-296-00	METAL GLAZE	0 5%	1/8W
JW9	1-216-296-00	METAL GLAZE	0 5%	1/8W
JW10	1-216-296-00	METAL GLAZE	0 5%	1/8W
JW11	1-216-296-00	METAL GLAZE	0 5%	1/8W
JW12	1-216-296-00	METAL GLAZE	0 5%	1/8W
JW13	1-216-296-00	METAL GLAZE	0 5%	1/8W
JW14	1-216-296-00	METAL GLAZE	0 5%	1/8W
JW15	1-216-296-00	METAL GLAZE	0 5%	1/8W
JW16	1-216-296-00	METAL GLAZE	0 5%	1/8W
JW17	1-216-296-00	METAL GLAZE	0 5%	1/8W
JW18	1-216-296-00	METAL GLAZE	0 5%	1/8W
JW19	1-216-296-00	METAL GLAZE	0 5%	1/8W
JW20	1-216-296-00	METAL GLAZE	0 5%	1/8W
JW21	1-216-296-00	METAL GLAZE	0 5%	1/8W
JW22	1-216-296-00	METAL GLAZE	0 5%	1/8W
JW23	1-216-296-00	METAL GLAZE	0 5%	1/8W
JW24	1-216-296-00	METAL GLAZE	0 5%	1/8W
JW25	1-216-295-00	METAL GLAZE	0 5%	1/10W
JW26	1-216-295-00	METAL GLAZE	0 5%	1/10W
JW27	1-216-296-00	METAL GLAZE	0 5%	1/8W
R1	1-216-133-00	METAL GLAZE	3.3M 5%	1/10W
R5	1-216-043-00	METAL GLAZE	560 5%	1/10W
R6	1-216-043-00	METAL GLAZE	560 5%	1/10W
R8	1-216-057-00	METAL GLAZE	2.2K 5%	1/10W
R9	1-216-053-00	METAL GLAZE	1.5K 5%	1/10W
R11	1-216-053-00	METAL GLAZE	1.5K 5%	1/10W
R12	1-216-051-00	METAL GLAZE	1.2K 5%	1/10W
R13	1-216-025-00	METAL GLAZE	100 5%	1/10W
R14	1-216-089-00	METAL GLAZE	47K 5%	1/10W
R15	1-216-071-00	METAL GLAZE	8.2K 5%	1/10W
R16	1-216-073-00	METAL GLAZE	10K 5%	1/10W
R17	1-216-065-00	METAL GLAZE	4.7K 5%	1/10W
R18	1-216-081-00	METAL GLAZE	22K 5%	1/10W
R19	1-216-025-00	METAL GLAZE	100 5%	1/10W
R20	1-216-111-00	METAL GLAZE	390K 5%	1/10W
R21	1-216-025-00	METAL GLAZE	100 5%	1/10W
R22	1-216-057-00	METAL GLAZE	2.2K 5%	1/10W
R23	1-216-049-00	METAL GLAZE	1K 5%	1/10W
R24	1-216-089-00	METAL GLAZE	47K 5%	1/10W
R26	1-216-061-00	METAL GLAZE	3.3K 5%	1/10W
R27	1-216-003-11	METAL GLAZE	12 5%	1/10W
R28	1-216-003-11	METAL GLAZE	12 5%	1/10W
R51	1-216-053-00	METAL GLAZE	1.5K 5%	1/10W
R52	1-216-051-00	METAL GLAZE	1.2K 5%	1/10W
R53	1-216-025-00	METAL GLAZE	100 5%	1/10W
R54	1-216-089-00	METAL GLAZE	47K 5%	1/10W
R55	1-216-073-00	METAL GLAZE	10K 5%	1/10W
R56	1-216-073-00	METAL GLAZE	10K 5%	1/10W
R57	1-216-065-00	METAL GLAZE	4.7K 5%	1/10W
R58	1-216-081-00	METAL GLAZE	22K 5%	1/10W
R59	1-216-025-00	METAL GLAZE	100 5%	1/10W
R60	1-216-111-00	METAL GLAZE	390K 5%	1/10W
R61	1-216-025-00	METAL GLAZE	100 5%	1/10W
R62	1-216-057-00	METAL GLAZE	2.2K 5%	1/10W
R63	1-216-049-00	METAL GLAZE	1K 5%	1/10W
R64	1-216-089-00	METAL GLAZE	47K 5%	1/10W
R66	1-216-061-00	METAL GLAZE	3.3K 5%	1/10W
R67	1-216-003-11	METAL GLAZE	12 5%	1/10W
R68	1-216-003-11	METAL GLAZE	12 5%	1/10W
R71	1-216-089-00	METAL GLAZE	47K 5%	1/10W
R73	1-216-051-00	METAL GLAZE	1.2K 5%	1/10W
R81	1-216-089-00	METAL GLAZE	47K 5%	1/10W
R83	1-216-051-00	METAL GLAZE	1.2K 5%	1/10W
		<VARIABLE RESISTOR>		
RV11	1-230-870-11	RES, ADJ, METAL GLAZE 10K		
RV51	1-230-870-11	RES, ADJ, METAL GLAZE 10K		

****

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION	REMARK
		MISCELLANEOUS	
		**********	
	⚠1-426-317-21	COIL, DEGAUSSING	
L902	⚠1-451-304-21	DEFLECTION YOKE (Y16SXA)	
	1-452-032-00	MAGNET, DISK; 10MM ϕ	
	1-452-094-00	MAGNET, ROTATABLE DISK; 15MM ϕ	
	1-452-277-00	MAGNET, BMC	
	1-503-344-21	SPEAKER (8CM CONE TYPE)	
	⚠1-590-129-11	CORD, POWER (WITH CONNECTOR)	
V901	⚠8-738-852-05	PICTURE TUBE (A37JUW10X)	

****

ACCESSORIES AND PACKING MATERIALS
****

PART NO.	DESCRIPTION	REMARK
1-417-154-11	MATCHING TRANSFORMER, ANTENNA	
1-501-372-21	ANTENNA, TELESCOPIC	
3-751-171-71	MANUAL, INSTRUCTION (ENGLISH/FRENCH/ GERMAN/PORTUGUESE/DUTCH)	
*4-384-927-01	BAG, PROTECTION	
*4-391-492-01	CUSHION (UPPER) (ASSY)	
*4-391-493-01	CUSHION (LOWER) (ASSY)	
*4-391-494-01	INDIVIDUAL CARTON HEADPHONES (MDR-IF510)	

REMOTE COMMANDER

1-465-488-11	REMOTE COMMANDER (RM-658)	
4-384-285-01	COVER, BATTERY (FOR RM-658)	

ACCESSORY

MDR-IF510

SPECIFICATIONS

Infrared wavelength	850 nm
Modulation	Frequency modulation
Carrier frequency	Right 2.8MHz
	Left 2.3MHz
Effective range	Up to 5m
Frequency response	20-20KHz
Distortion	Less then 1% at 1kHz
Power source	DC 3V : two size AA (R6) batteries
	or two rechargeable batteries,
	NC-6WM or NC-5WM (not supplied)
Weight	Approx 180g (6.3 oz.) including
	size AA (R6) batteries

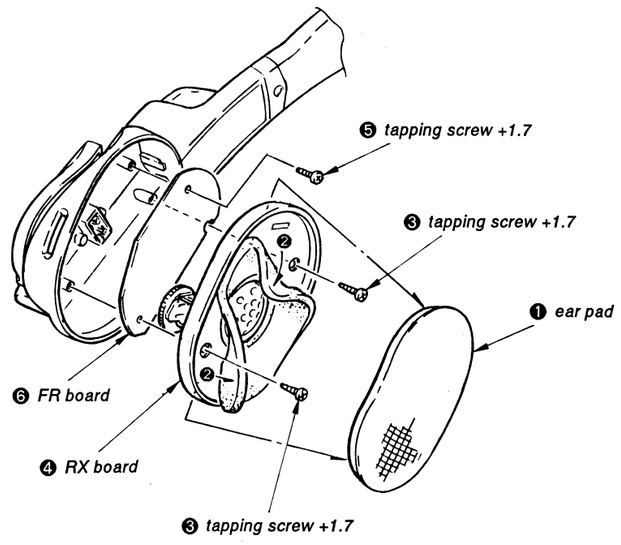
Design and specifications subject to change without notice.

CORDLESS STEREO HEADPHONES

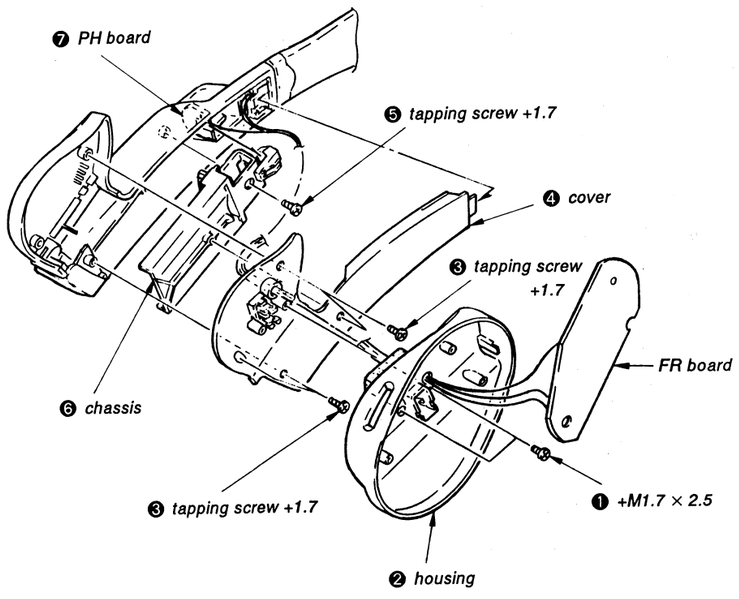
1. DISASSEMBLY

Note: Follow the disassembly procedure in the numerical order given.

RX (L), (R) BOARDS, FR (L), (R) BOARDS



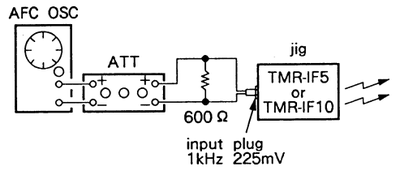
PH (L), (R) BOARDS



2. ELECTRICAL ADJUSTMENTS

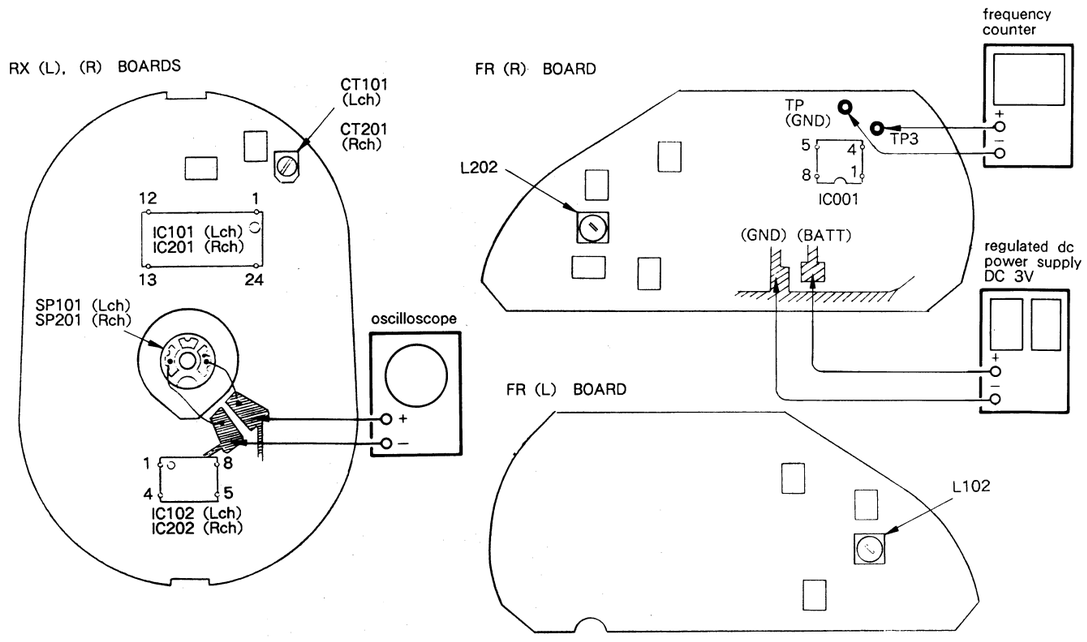
Note:
1. On adjusting, use the transmitter (TMR-IF5 or TMR-IF10) as a jig.
2. The patterns of the printed circuit boards for L-ch and R-ch as common.
3. L-ch adjustment should be completed before performing R-ch adjustment.

[Preparation]



1. Feed a signal to jig (TMR-IF5 or TMR-IF10) and connect a power supply.

[Connection and Adjustment Location]



[Receiving Frequency Adjustment]

Procedure:
1. Connect a oscilloscope to SP101 or SP201.
2. Turn on the power switch on the headphones.
3. Adjust to make minute input level with changing the direction of the emitting position of jig so that the noise appears on the waveform.
4. Adjust with CT101 (L-ch) or CT201 (R-ch) to maximize the reading on the oscilloscope.
5. Adjust with L102 (L-ch) or L202 (R-ch) to maximize the reading on the oscilloscope.

[Timer Clock Frequency Check]

1. Connect a frequency counter to TP3 and TP (GND).
2. Check the reading on the frequency counter becomes to the checking value.
   Checking value: 350 ± 20 Hz.

KV-H1610D MDR-IF510/RM-658

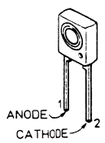
4-1. PRINTED WIRING BOARDS

- **Semiconductor Location**

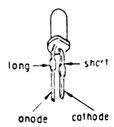
Ref. No.	Location
D1	C-17
D101	E-4
D102	E-12
IC1	B-14
IC101	G-4
IC102	J-4
IC201	G-12
IC202	J-12
Q1	B-14
Q101	B-5
Q102	B-4
Q103	J-3
Q104	J-3
Q105	I-3
Q201	B-11
Q202	B-12
Q203	J-11
Q204	J-11
Q205	I-11
PH101	B-7
PH102	A-7
PH201	A-9
PH202	B-9

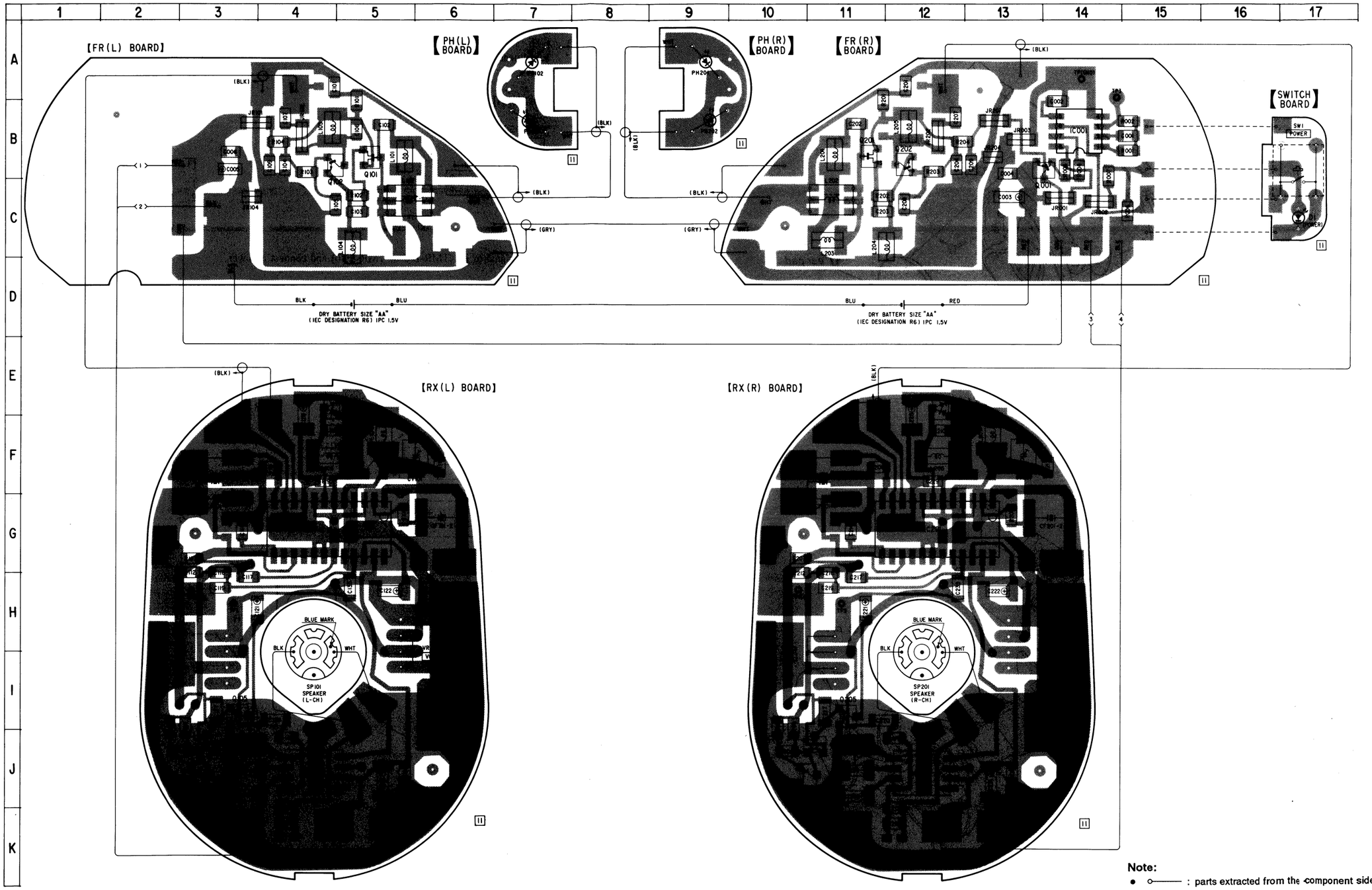
- **Semiconductor Lead Layout**

PP506-1



TLR124





Note:

- ○——— : parts extracted from the component side.
- ● : Through hole.
- ▒▒▒ : Pattern on the side which is seen.
- ▒▒▒ : Pattern of the rear side.

【 PH (L) BOARD 】

【FR (L) BOARD】

【 RX (L) BOARD 】

【 SW BOARD 】

【 FR (R) BOARD 】

【 PH (R) BOARD 】

【 RX (R) BOARD 】

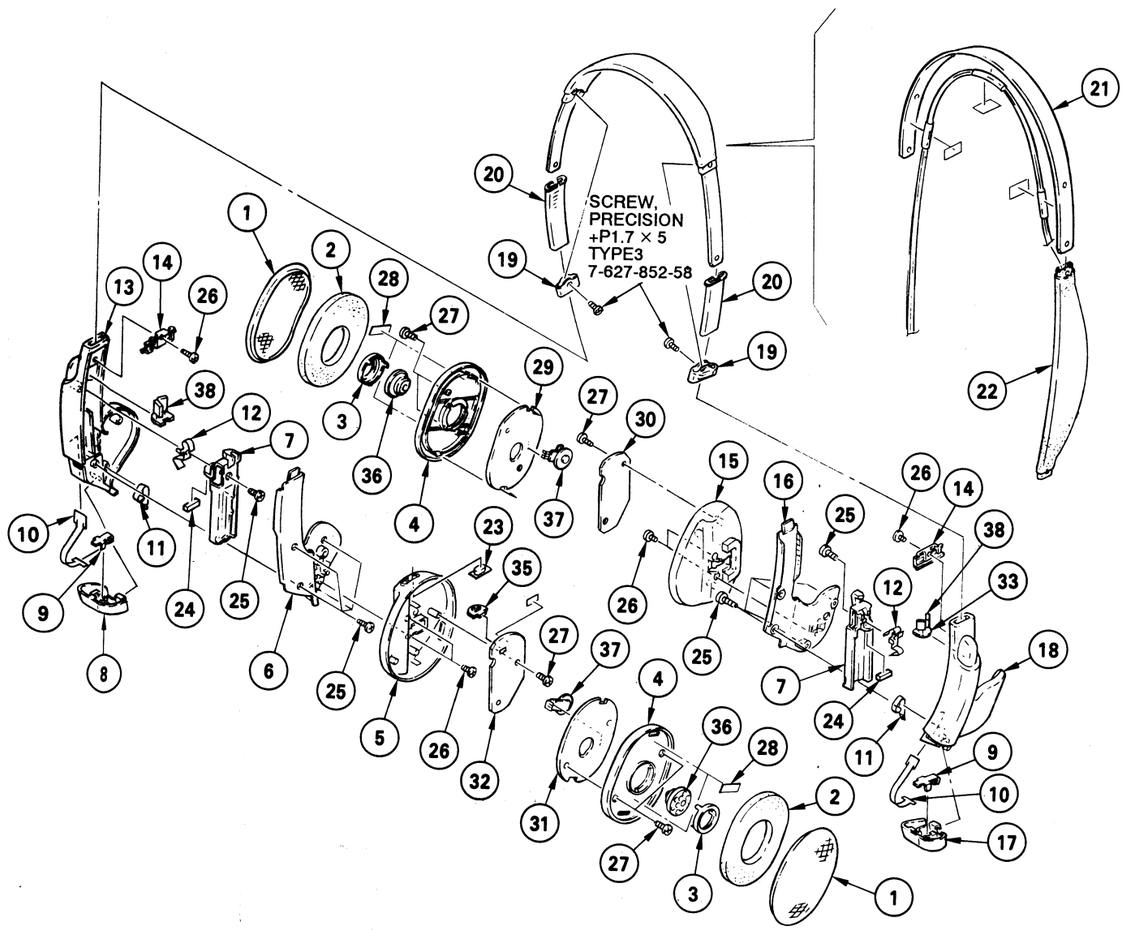
Note:

- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼ W or less unless otherwise specified.
- B + : B + Line.
- Power voltage is dc 3 V and fed with regurated dc power supply to BATT pattern and ground.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
- Voltages are taken with a VOM (10 MΩ/V). Voltage variations may be noted due to normal production tolerances.
- Signal path.
  ⇨ : Audio signal
  ⇛ : RF signal

5. EXPLODED VIEW

RX(L) **FR(L)**

NOTE:
- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked " ★ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.



REF.NO.	PART NO.	DESCRIPTION	REMARK
1	2-136-263-01	PAD, EAR	
2	2-136-264-01	CUSHION	
3	2-136-213-01	HOLDER, DRIVER	
4	2-136-280-01	PLATE, FRONT	
5	X-4941-084-1	HOUSING (R) ASSY	
6	2-136-258-11	COVER (R)	
7	*2-136-277-01	CHASSIS	
8	2-136-260-11	LID (R), BATTERY CASE	
9	2-136-265-01	TERMINAL, (+)	
10	2-136-262-01	SHEET	
11	2-136-267-01	TERMINAL	
12	2-136-266-01	TERMINAL, (-)	
13	X-4941-083-1	HANGER (R) ASSY	
14	2-136-271-01	SLIDER	
15	2-136-278-01	HOUSING (L)	
16	2-136-282-11	COVER (L)	
17	2-136-270-11	LID (L), BATTERY CASE	
18	X-4941-082-1	HANGER (L) ASSY	
19	2-136-275-11	RETAINER, HEAD COVER	
20	2-136-273-11	COVER, BAND	
21	2-136-274-01	BAND, HEAD	
22	2-136-272-11	COVER, HEAD	
23	2-136-268-01	KNOB	
24	*9-911-839-99	CUSHION (DC)	
25	3-703-454-00	SCREW (1.7X4), TAPPING	
26	3-884-232-00	SCREW M1.7X2.5	
27	3-703-454-21	SCREW (1.7X6), TAPPING	
28	*3-563-500-01	SHEET (S), ADHESIVE	
29	*A-4538-071-A	RX (L) BOARD, COMPLETE	
30	*A-4538-072-A	FR (L) BOARD, COMPLETE	
31	*A-4538-074-A	RX (R) BOARD, COMPLETE	
32	*A-4538-076-A	FR (R) BOARD, COMPLETE	
33	*1-633-388-11	PH (L) BOARD	
34	*1-633-389-11	PH (R) BOARD	
35	*1-633-390-11	SW BOARD	
36	1-505-089-11	DRIVER	
37	1-238-906-11	RES, VAR, CARBON 10K	
38	8-719-975-19	PHOTO DIODE PP506-1	

6. ELECTRICAL PARTS LIST

NOTE:
- Items marked " ★ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

When indicating parts by reference number, please include the board name.

CAPACITORS • MF : μF, PF : μμF

COILS • MMH : mH, UH : μH

RESISTORS
- All resistors are in ohms
- F : nonflammable

REF.NO.	PART NO.	DESCRIPTION			REMARK
	*A-4538-071-A	RX (L) BOARD, COMPLETE			
		**********			
	1-578-717-71	FILTER, CRYSTAL			
	*2-527-551-11	SPACER			
		<CAPACITOR>			
C110	1-163-101-00	CERAMIC CHIP 22PF	5%	50V	
C111	1-163-106-00	CERAMIC CHIP 36PF	5%	50V	
C114	1-163-033-00	CERAMIC CHIP 0.022MF		50V	
C116	1-163-038-00	CERAMIC CHIP 0.1MF		25V	
C117	1-163-121-00	CERAMIC CHIP 150PF	5%	50V	
C119	1-163-020-00	CERAMIC CHIP 0.0082MF	10%	50V	
C120	1-164-337-11	CERAMIC CHIP 2.2MF		16V	
C125	1-163-121-00	CERAMIC CHIP 150PF	5%	50V	
C126	1-163-101-00	CERAMIC CHIP 22PF	5%	50V	
C127	1-164-337-11	CERAMIC CHIP 2.2MF		16V	
C129	1-163-033-00	CERAMIC CHIP 0.022MF		50V	
C130	1-163-011-11	CERAMIC CHIP 0.0015MF	10%	50V	
C132	1-163-033-00	CERAMIC CHIP 0.022MF		50V	
C135	1-164-337-11	CERAMIC CHIP 2.2MF		16V	
		<TRIMMER>			
CV101	1-141-325-11	CAP, VAR, TRIMMER (CHIP TYPE)			
		<DIODE>			
D101	8-719-946-33	DIODE HSM276S			
		<IC>			
IC101	8-752-011-10	IC CX20111			
IC102	8-759-030-77	IC MC34119-M			
		<COIL>			
L106	1-408-792-00	INDUCTOR CHIP 180UH			
L107	1-408-771-11	INDUCTOR CHIP 3.3UH			
		<TRANSISTOR>			
Q103	8-729-271-22	TRANSISTOR 2SC2712-G			
Q104	8-729-906-45	TRANSISTOR DTA143XK			
Q105	8-729-900-52	TRANSISTOR DTC114YK			
		<RESISTOR>			
JR101	1-216-296-00	METAL GLAZE 0	5%	1/8W	
R105	1-216-025-00	METAL GLAZE 100	5%	1/10W	
R106	1-216-049-00	METAL GLAZE 1K	5%	1/10W	
R107	1-216-061-00	METAL GLAZE 3.3K	5%	1/10W	
R109	1-216-085-00	METAL GLAZE 33K	5%	1/10W	
R110	1-216-061-00	METAL GLAZE 3.3K	5%	1/10W	
R111	1-216-085-00	METAL GLAZE 33K	5%	1/10W	
R112	1-216-065-00	METAL GLAZE 4.7K	5%	1/10W	
		<VARIABLE RESISTOR>			
VR101	1-238-906-11	RES, VAR, CARBON 10K			
		**********			
	*A-4538-072-A	FR (L) BOARD, COMPLETE			
		**********			
		<CAPACITOR>			
C5	1-135-157-21	TANTAL. CHIP 10MF	20%	4V	
C6	1-163-033-00	CERAMIC CHIP 0.022MF		50V	
C101	1-163-038-00	CERAMIC CHIP 0.1MF		25V	
C102	1-163-103-00	CERAMIC CHIP 27PF	5%	50V	
C103	1-163-034-00	CERAMIC CHIP 0.033MF		50V	
C104	1-163-034-00	CERAMIC CHIP 0.033MF		50V	
C105	1-163-034-00	CERAMIC CHIP 0.033MF		50V	
C106	1-163-088-00	CERAMIC CHIP 5PF	0.25PF	50V	
C107	1-163-118-00	CERAMIC CHIP 110PF	5%	50V	
C109	1-163-034-00	CERAMIC CHIP 0.033MF		50V	
		<COIL>			
L101	1-408-784-11	INDUCTOR CHIP 39UH			
L102	1-424-333-11	COIL			
L104	1-408-786-21	INDUCTOR CHIP 56UH			
L105	1-408-784-11	INDUCTOR CHIP 39UH			
		<TRANSISTOR>			
Q101	8-729-220-93	TRANSISTOR 2SK209G			
Q102	8-729-271-22	TRANSISTOR 2SC2712-G			
		<RESISTOR>			
JR101	1-216-296-00	METAL GLAZE 0	5%	1/8W	
JR102	1-216-296-00	METAL GLAZE 0	5%	1/8W	
JR104	1-216-296-00	METAL GLAZE 0	5%	1/8W	
R101	1-216-057-00	METAL GLAZE 2.2K	5%	1/10W	
R102	1-216-021-00	METAL GLAZE 68	5%	1/10W	
R103	1-216-109-00	METAL GLAZE 330K	5%	1/10W	
R104	1-216-025-00	METAL GLAZE 100	5%	1/10W	

****

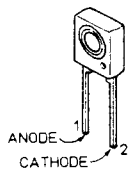
4-1. PRINTED WIRING BOARDS

• Semiconductor Location

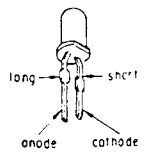
Ref. No.	Location
D1	C-17
D101	E-4
D102	E-12
IC1	B-14
IC101	G-4
IC102	J-4
IC201	G-12
IC202	J-12
Q1	B-14
Q101	B-5
Q102	B-4
Q103	J-3
Q104	J-3
Q105	I-3
Q201	B-11
Q202	B-12
Q203	J-11
Q204	J-11
Q205	I-11
PH101	B-7
PH102	A-7
PH201	A-9
PH202	B-9

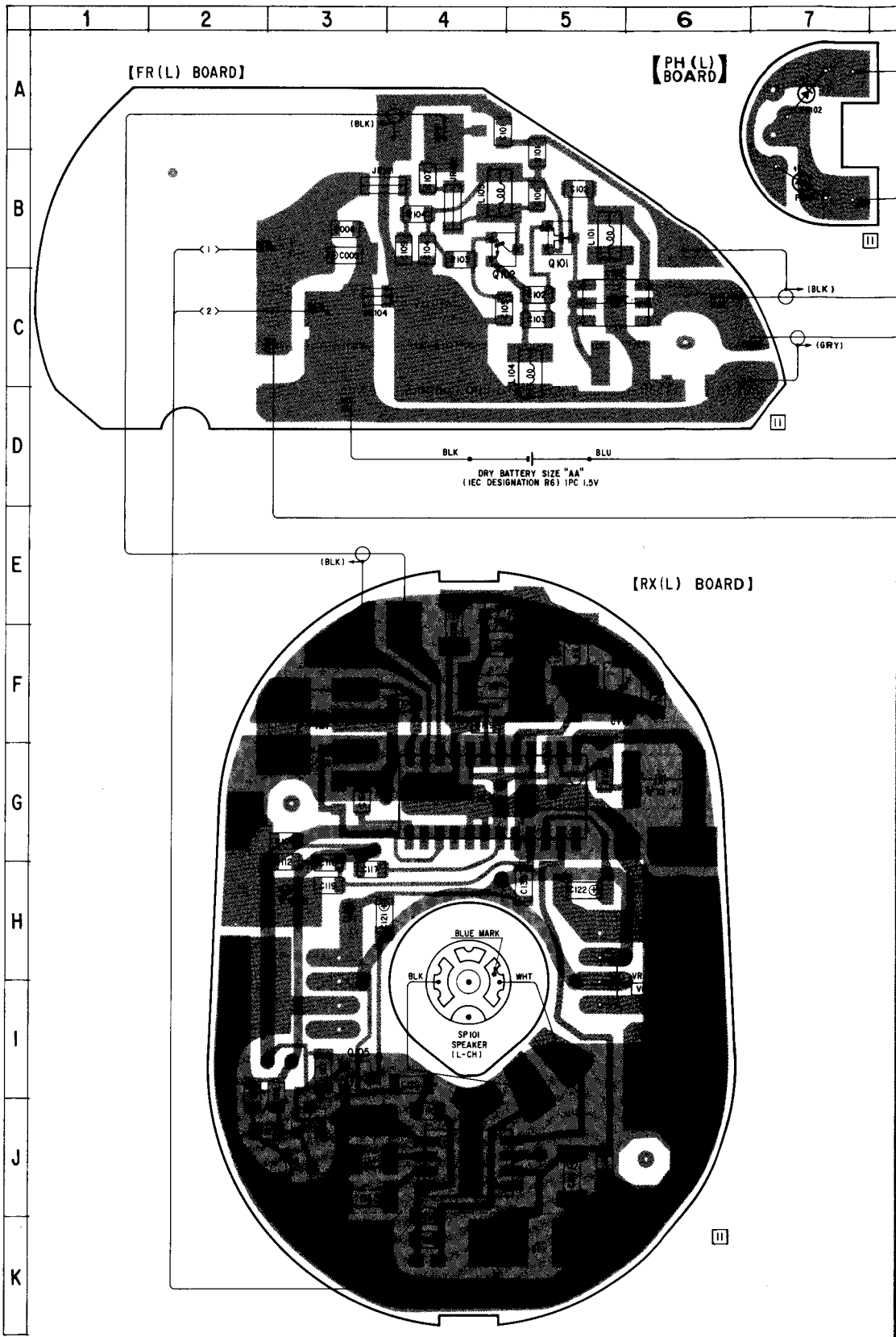
• Semiconductor Lead Layout

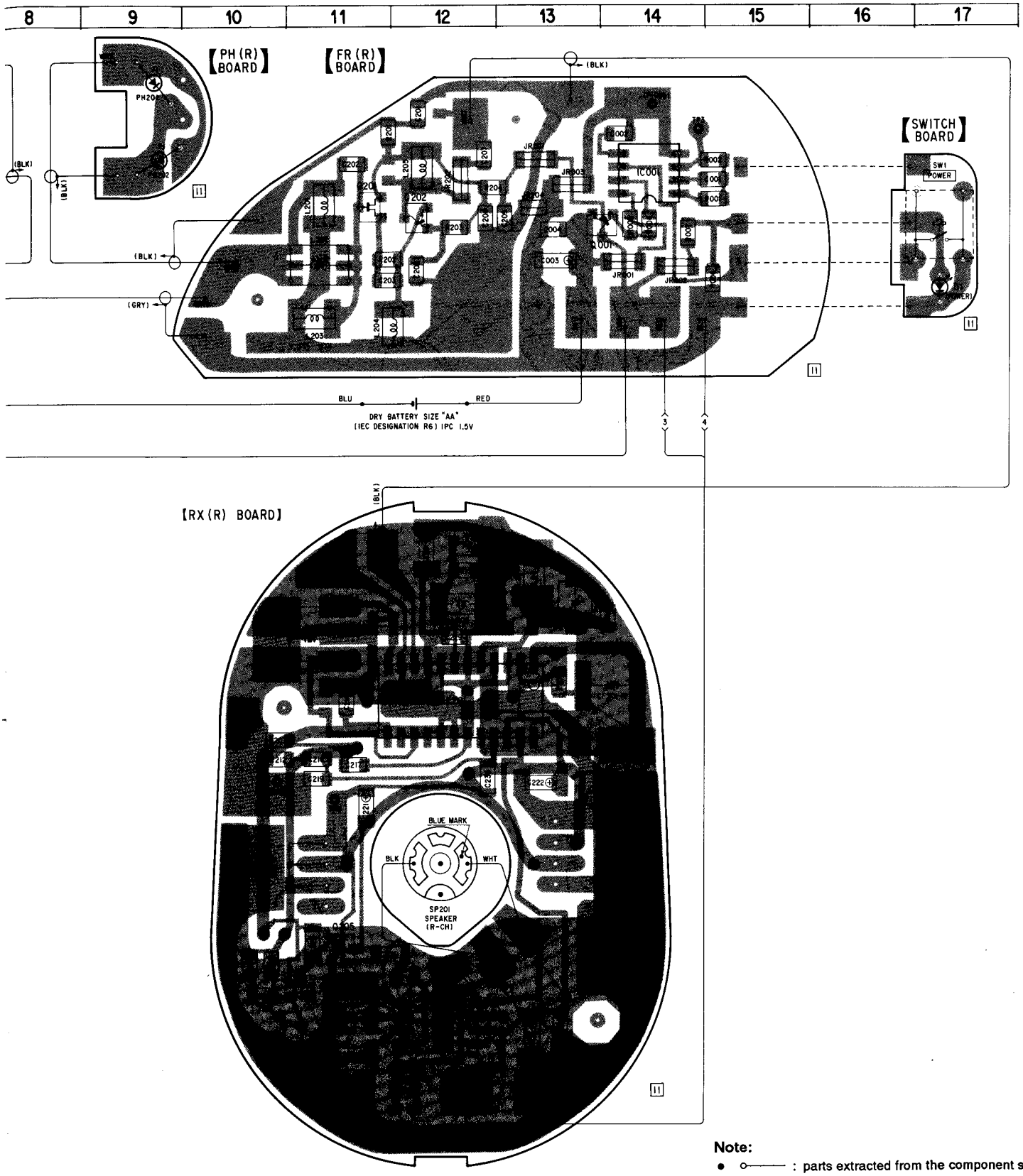
PP506-1



TLR124







Note:

- ○——— : parts extracted from the component side.
- ● : Through hole.
- ▒▒▒ : Pattern on the side which is seen.
- ▒▒▒ : Pattern of the rear side.

5. EXPLODED VIEW

NOTE:
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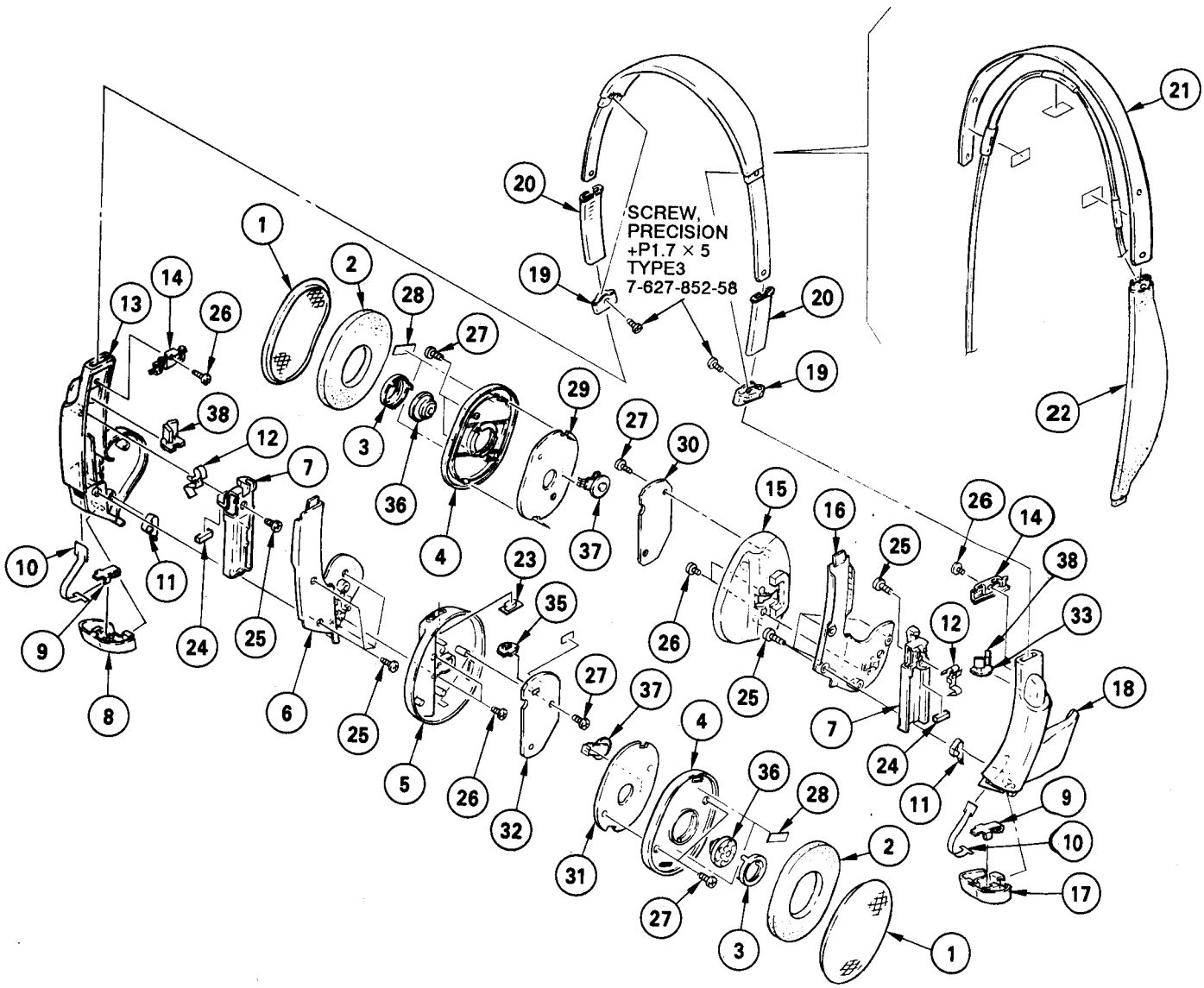
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.



REF.NO.	PART NO.	DESCRIPTION	REMARK
1	2-136-263-01	PAD, EAR	
2	2-136-264-01	CUSHION	
3	2-136-213-01	HOLDER, DRIVER	
4	2-136-280-01	PLATE, FRONT	
5	X-4941-084-1	HOUSING (R) ASSY	
6	2-136-258-11	COVER (R)	
7	*2-136-277-01	CHASSIS	
8	2-136-260-11	LID (R), BATTERY CASE	
9	2-136-265-01	TERMINAL, (+)	
10	2-136-262-01	SHEET	
11	2-136-267-01	TERMINAL	
12	2-136-266-01	TERMINAL, (-)	
13	X-4941-083-1	HANGER (R) ASSY	
14	2-136-271-01	SLIDER	
15	2-136-278-01	HOUSING (L)	
16	2-136-282-11	COVER (L)	
17	2-136-270-11	LID (L), BATTERY CASE	
18	X-4941-082-1	HANGER (L) ASSY	
19	2-136-275-11	RETAINER, HEAD COVER	
20	2-136-273-11	COVER, BAND	
21	2-136-274-01	BAND, HEAD	
22	2-136-272-11	COVER, HEAD	
23	2-136-268-01	KNOB	
24	*9-911-839-99	CUSHION (DC)	
25	3-703-454-00	SCREW (1.7X4), TAPPING	
26	3-884-232-00	SCREW M1.7X2.5	
27	3-703-454-21	SCREW (1.7X6), TAPPING	
28	*3-563-500-01	SHEET (S), ADHESIVE	
29	*A-4538-071-A	RX (L) BOARD, COMPLETE	
30	*A-4538-072-A	FR (L) BOARD, COMPLETE	
31	*A-4538-074-A	RX (R) BOARD, COMPLETE	
32	*A-4538-076-A	FR (R) BOARD, COMPLETE	
33	*1-633-388-11	PH (L) BOARD	
34	*1-633-389-11	PH (R) BOARD	
35	*1-633-390-11	SW BOARD	
36	1-505-089-11	DRIVER	
37	1-238-906-11	RES, VAR, CARBON 10K	
38	8-719-975-19	PHOTO DIODE PP506-1	

RX(R) FR(R) SW

REF.NO.	PART NO.	DESCRIPTION		REMARK
	*A-4538-074-A	RX (R) BOARD, COMPLETE		
		**********		
	1-578-717-71	FILTER, CRYSTAL		
	*2-527-551-11	SPACER		
		<CAPACITOR>		
C211	1-163-105-00	CERAMIC CHIP 33PF	5%	50V
C214	1-163-033-00	CERAMIC CHIP 0.022MF		50V
C216	1-163-038-00	CERAMIC CHIP 0.1MF		25V
C217	1-163-121-00	CERAMIC CHIP 150PF	5%	50V
C219	1-163-020-00	CERAMIC CHIP 0.0082MF	10%	50V
C220	1-164-337-11	CERAMIC CHIP 2.2MF		16V
C225	1-163-121-00	CERAMIC CHIP 150PF	5%	50V
C226	1-163-101-00	CERAMIC CHIP 22PF	5%	50V
C227	1-164-337-11	CERAMIC CHIP 2.2MF		16V
C229	1-163-033-00	CERAMIC CHIP 0.022MF		50V
C230	1-163-011-11	CERAMIC CHIP 0.0015MF	10%	50V
C232	1-163-033-00	CERAMIC CHIP 0.022MF		50V
C235	1-164-337-11	CERAMIC CHIP 2.2MF		16V
		<TRIMMER>		
CV201	1-141-325-11	CAP, VAR, TRIMMER (CHIP TYPE)		
		<DIODE>		
D201	8-719-946-33	DIODE HSM276S		
		<IC>		
IC201	8-752-011-10	IC CX20111		
IC202	8-759-030-77	IC MC34119-M		
		<COIL>		
L206	1-408-789-21	INDUCTOR CHIP 100UH		
L207	1-408-771-11	INDUCTOR CHIP 3.3UH		
		<TRANSISTOR>		
Q203	8-729-271-22	TRANSISTOR 2SC2712-G		
Q204	8-729-906-45	TRANSISTOR DTA143XK		
Q205	8-729-900-52	TRANSISTOR DTC114YK		
		<RESISTOR>		
JR201	1-216-296-00	METAL GLAZE 0	5%	1/8W
R205	1-216-025-00	METAL GLAZE 100	5%	1/10W
R206	1-216-049-00	METAL GLAZE 1K	5%	1/10W
R207	1-216-061-00	METAL GLAZE 3.3K	5%	1/10W
R209	1-216-085-00	METAL GLAZE 33K	5%	1/10W
R210	1-216-061-00	METAL GLAZE 3.3K	5%	1/10W
R211	1-216-085-00	METAL GLAZE 33K	5%	1/10W
R212	1-216-065-00	METAL GLAZE 4.7K	5%	1/10W
		<VARIABLE RESISTOR>		
VR201	1-238-906-11	RES, VAR, CARBON 10K		

REF.NO.	PART NO.	DESCRIPTION		REMARK
	*A-4538-076-A	FR (R) BOARD, COMPLETE		
		**********		
	3-831-441-11	CUSHION		
		<CAPACITOR>		
C1	1-163-017-00	CERAMIC CHIP 0.0047MF	10%	50V
C2	1-163-038-00	CERAMIC CHIP 0.1MF		25V
C3	1-135-157-21	TANTAL. CHIP 10MF	20%	4V
C4	1-163-033-00	CERAMIC CHIP 0.022MF		50V
C201	1-163-038-00	CERAMIC CHIP 0.1MF		25V
C202	1-163-113-00	CERAMIC CHIP 68PF	5%	50V
C203	1-163-034-00	CERAMIC CHIP 0.033MF		50V
C204	1-163-034-00	CERAMIC CHIP 0.033MF		50V
C205	1-163-034-00	CERAMIC CHIP 0.033MF		50V
C207	1-163-115-00	CERAMIC CHIP 82PF	5%	50V
C209	1-163-034-00	CERAMIC CHIP 0.033MF		50V
		<IC>		
IC1	8-759-977-60	IC BU2300BF		
		<COIL>		
L201	1-408-784-11	INDUCTOR CHIP 39UH		
L202	1-424-334-11	COIL		
L203	1-408-789-21	INDUCTOR CHIP 100UH		
L204	1-408-786-21	INDUCTOR CHIP 56UH		
L205	1-408-784-11	INDUCTOR CHIP 39UH		
		<TRANSISTOR>		
Q1	8-729-216-22	TRANSISTOR 2SA1162-G		
Q201	8-729-220-93	TRANSISTOR 2SK209G		
Q202	8-729-271-22	TRANSISTOR 2SC2712-G		
		<RESISTOR>		
JR1	1-216-296-00	METAL GLAZE 0	5%	1/8W
JR2	1-216-296-00	METAL GLAZE 0	5%	1/8W
JR3	1-216-296-00	METAL GLAZE 0	5%	1/8W
JR201	1-216-296-00	METAL GLAZE 0	5%	1/8W
JR202	1-216-296-00	METAL GLAZE 0	5%	1/8W
JR204	1-216-296-00	METAL GLAZE 0	5%	1/8W
R1	1-216-115-00	METAL GLAZE 560K	5%	1/10W
R2	1-216-108-00	METAL GLAZE 300K	5%	1/10W
R4	1-216-049-00	METAL GLAZE 1K	5%	1/10W
R5	1-216-089-00	METAL GLAZE 47K	5%	1/10W
R6	1-216-077-00	METAL GLAZE 15K	5%	1/10W
R7	1-216-057-00	METAL GLAZE 2.2K	5%	1/10W
R201	1-216-057-00	METAL GLAZE 2.2K	5%	1/10W
R202	1-216-021-00	METAL GLAZE 68	5%	1/10W
R203	1-216-109-00	METAL GLAZE 330K	5%	1/10W
R204	1-216-025-00	METAL GLAZE 100	5%	1/10W
	*1-633-390-11	SW BOARD		
		********		
		<DIODE>		
D1	8-719-812-41	DIODE TLR124		

SW **PH(L)** **PH(R)**

REF.NO.	PART NO.	DESCRIPTION	REMARK
		<SWITCH>	
SW1	1-554-303-21	SWITCH, KEY BOARD	
**********			
*1	1-633-388-11	PH (L) BOARD	
		**********	
*2	1-145-156-01	CUSHION	
		<DIODE>	
PH101	8-719-975-19	PHOTO DIODE PP506-1	
PH102	8-719-975-19	PHOTO DIODE PP506-1	
**********			
*1	1-633-389-11	PH (R) BOARD	
		**********	
*2	1-145-156-01	CUSHION	
		<DIODE>	
PH201	8-719-975-19	PHOTO DIODE PP506-1	
PH202	8-719-975-19	PHOTO DIODE PP506-1	
**********			
		MISCELLANEOUS	
		**********	
	1-505-089-11	DRIVER	

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